



Revision 1

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HYDROGEOLOGIC INVESTIGATION REPORT

**FLEETWIDE ASSESSMENT
DRESDEN GENERATING STATION
MORRIS, ILLINOIS**

**Prepared For:
Exelon Generation Company, LLC**

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EXECUTIVE SUMMARY

This Hydrogeologic Investigation Report (HIR) documents the results of Conestoga-Rovers & Associates' (CRA's) May to August 2006 hydrogeologic investigation pertaining to the Dresden Generating Station (Station). CRA prepared this HIR for Exelon as part of its Fleetwide Program to determine whether groundwater at and in the vicinity of its nuclear power generating facilities has been adversely impacted by any releases of radionuclides.

CRA collected and analyzed information on any historical releases, the structures, components, and areas of the Station that have the potential to release tritium or other radioactive liquids to the environment and past hydrogeologic investigations at the Station. CRA used this information, combined with its understanding of groundwater flow at the Station to identify Areas for Further Evaluation (AFEs) for the Station.

CRA collected 68 groundwater samples and six surface water samples at the Station. CRA also collected two full rounds of water levels from the newly installed (with the exception of the wells installed in August) and existing wells and measured surface water levels. All groundwater and surface water samples were analyzed for tritium, strontium-89/90, and gamma-emitting radionuclides.

The results of the hydrogeologic investigation are:

- Gamma-emitting radionuclides associated with licensed plant operations were not detected at concentrations greater than their respective Lower Limits of Detection (LLDs) in any of the groundwater or surface water samples obtained and analyzed during the course of this investigation;
- Strontium-90 was not detected in groundwater at concentrations greater than the United States Environmental Protection Agency drinking water standard of 8.0 pCi/L;
- Tritium was not detected at concentrations greater than the United States Environmental Protection Agency drinking water standard of 20,000 pCi/L in any of the groundwater or surface water samples obtained and analyzed during the course of this investigation;
- Tritium was detected in the shallow and intermediate groundwater zones at concentrations greater than the LLD of 200 pCi/L, which is considered background, but well below the applicable drinking water standard;
- These tritium concentrations ranged from 210 ± 124 pCi/L, to $13,200 \pm 319$ pCi/L;

- Strontium-90 was not detected at concentrations greater than the United States Environmental Protection Agency drinking water standard of 8.0 pCi/L in any of the groundwater or surface water samples obtained and analyzed during the course of this investigation;
- Strontium-90 was detected in a single intermediate well (MW-DN-108I) at concentrations greater than the Lower Limit of Detection of 2.0 pCi/L, which is well below the applicable drinking water standard;
- The strontium-90 concentration from MW-DN-108I was 2.17 ± 0.783 pCi/L;
- Based on the results of this investigation, tritium originating from the Station is not migrating off the Station property at detectable concentrations;
- Based on the results of this investigation, there is no current risk of exposure to radionuclides associated with licensed plant operations through any of the identified potential exposure pathways; and
- Based upon the results of this investigation, there are no known active releases into the groundwater at the Station.

Based on the information collected to date, CRA recommends that Exelon conduct periodic monitoring of selected sample locations.

1.0 INTRODUCTION

Conestoga-Rovers & Associates (CRA) prepared this Hydrogeologic Investigation Report (HIR) for Exelon Generation Company, LLC (Exelon) as part of its Fleetwide Program to determine whether groundwater at and near its nuclear power generating facilities has been adversely impacted by any releases of radionuclides. This report documents the results of CRA's May 2006 Hydrogeologic Investigation Work Plan (Work Plan) as well as several other investigative tasks recommended by CRA during the course of the investigation. These investigations pertain to Exelon's Dresden Generating Station in Morris, Illinois (Station) (see Figure 1.1). The Station is defined as all property, structures, systems, and components owned and operated by Exelon LLC located at 6500 North Dresden Road in Morris, Illinois.

Pursuant to the Work Plan, CRA assessed groundwater quality at the Station in locations designated as Areas for Further Evaluation (AFEs). The process by which CRA identified AFEs is discussed in Section 3.0 of this report.

The objectives of the Work Plan were to:

- characterize the geologic and hydrogeologic conditions within the Station, including subsurface soil types, the presence or absence of confining layers, and the direction and rate of groundwater flow;
- characterize the groundwater/surface water interaction at the Station, including a determination of the surface water flow regime;
- evaluate groundwater quality at the Station, including the vertical and horizontal extent, quantity, concentration, and source of tritium and other radionuclides in the groundwater, if any;
- define the probable sources of any radionuclides released at the Station;
- evaluate potential human, ecological, or environmental receptors of any radionuclides that might have been released to the groundwater; and
- evaluate whether interim response activities are warranted.

2.0 STATION DESCRIPTION

The following section presents a general summary of the Station location and definition, overview of Station operations, surrounding land use, and an overview of both regional and Station-specific topography, surface water features, geology, hydrogeology, and groundwater flow conditions. This section also presents an overview of groundwater use in the area.

2.1 STATION LOCATION

The Station consists of approximately 1,600 acres, of which approximately 400 acres are used for the generating facilities. The other approximately 1,284 acres of property encompass the Industrial Cooling Pond (Pond). The Station is located near the City of Morris, in Grundy County. The Station is located at the junction of the Kankakee and Des Plaines Rivers that merge to form the Illinois River. The Station address is 6500 North Dresden Road, Morris, Illinois. The Station is owned and operated by Exelon. Figure 2.1 presents the Station Boundaries and Features map, which includes key features. The Protected Area (PA) of the Station is the fenced-in area surrounding the Reactor and Turbine Buildings and other critical facilities related to the operation of the Station.

The Pond is located to the south of the Station and serves as the Station's storage and thermal loss point for cooling water used to condense the steam generated during normal operation of the two reactors. Two man-made, unlined canals run between the power generation buildings within the PA and the Pond and are known respectively as the Hot and Cold Canals.

2.2 OVERVIEW OF COOLING WATER OPERATION

The Station's generating system consists of a three-unit nuclear generating facility, capable of generating 1,824 gross megawatts of electricity. The generating station consists of one permanently shut down reactor (Unit 1) and two operating reactors (Units 2/3). Historically, Unit 1 began commercial operation in 1960. Unit 1 was subsequently shut down in October 1978 and is being decommissioned under the Nuclear Regulatory Commission's (NRC's) SAFSTOR program. The Station Unit 1 Operating License number is DPR-2. Units 2/3 are boiling water reactors (BWRs) and began commercial operation in 1970 and 1971, respectively. The Station's Unit 2

Operating License number is DPR-19. The Station's Unit 3 Operating License number is DPR-25.

A BWR plant consists of two separate loops of fluids. Each loop is designed to avoid mixing the fluids of one loop with the fluids of another. The loops are called the primary loop and the secondary loop.

The main purpose of the primary loop is to transfer the energy generated from fission in the fuel to the turbine to produce electricity. It is a closed loop system. Nuclear fission creates heat in the fuel. This heat is removed by the flow of reactor coolant water through the reactor vessel to the turbine. Steam is generated as a result and is used to power the turbine, transferring kinetic energy to the generator to produce electricity. The steam is then condensed on one side of the condenser and the water is pumped back to the reactor vessel to be heated by the fuel again.

The main purpose of the secondary loop cooling water is to cool the other side of the condenser, cooling the primary loop steam, and transferring the heat to the environment.

Cooling water for the Station is withdrawn from the Kankakee River by way of the Units 2/3 Intake Canal. Units 2/3 were originally designed to operate in a direct open cycle. Cooling water was routed from the Kankakee River to the Units 2/3 Cribhouse, through the condensers, and discharged directly to a canal routed to the Illinois River.¹

Just after initial startup of Units 2/3, the Pond was constructed about 2 miles south of the Station. The clay dike encloses 1,284 acres. A 'Hot Canal' was cut from the discharge of Units 2/3 to the Pond Lift Station. Cooling water is lifted 22 feet and routes around the Pond back to weir gates or a Spillway, constructed just south of the Lift Station. The Return Canal ('Cold Canal') routes parallel to the Hot Canal back to the plant. The Cold Canal ends at a Flow Regulating Station with large gates that can divert the cooling water back to the plant (Closed Cycle operation) or discharge it to the Illinois River (Indirect Open Cycle). The Pond and both Hot and Cold Canals reduce thermal impact from dual unit operation.

The cooling water passes through the Units 2/3 Cribhouse and into the condensers. Once it passes through the condensers it exits the Turbine Building and is discharged to the Hot Canal and routes to the Pond. Cooling water is routed through the Pond in such

¹ The Kankakee River is where the Intake point is located, whereas, the Illinois River is where the Discharge point is located (see Figure 2.1).

a way as to maximize the heat loss. After passing through the Pond, the cooling water is routed back to the Station via the Cold Canal. During the hotter summer months, the cooling water, from either the Hot or Cold Canals, also passes through a series of cooling towers. This allows the Station to increase its efficiency in the summer months. It enables the Station to comply with the thermal limits of its National Pollutant Discharge Elimination System (NPDES) Permit IL0002224. Due to the Station's differing demand for cooling water throughout the day, the water levels in the canals fluctuate markedly on a daily basis. There are two cooling cycles employed at the Station as discussed below.

From October 1 through June 14 of each year, the Station operates in a Closed Cycle mode during which a majority of the cooling water is recirculated, and discharge to the Illinois River is limited. In this mode, the Flow Regulating Gates divert cooling water from the Pond back to the Cribhouse Intake structure. In the Closed Cycle mode, 50,000 gallons per minute (gpm) are discharged (blowdown) to the Illinois River through a permitted outfall.

From June 15 through September 30 of each year, the Dresden NPDES Permit allows the Station to operate in the Indirect Open Cycle mode. In this mode, the Flow Regulating Gates divert all the cooling water flow to the Illinois River through a permitted outfall.

Figure 2.2 provides an overview of the Station's cooling water cycles.

2.3 SURROUNDING LAND USE

Land surrounding the Station is primarily used for residential, agricultural, and limited industrial purposes. The Illinois River lies to the north of the Station, with residences located on the northern banks of a bluff on the river, overlooking the Station. To the east of the Station is the Kankakee River. Residential lots are located immediately south of the Station along the banks of the Kankakee River. To the west of the Station is vacant land owned by Exelon, with a General Electric Fuel Processing Facility further beyond. To the southwest of the Station is Goose Lake Prairie State Park, which is owned and operated by the Illinois Department of Natural Resources (Illinois DNR). The nearest urbanized area is the town of Channahon, which is approximately 3 miles to the northeast of the Station, across the Illinois River. Agricultural land is located further south and west of the Station.

2.4 STATION SETTING

The following section presents a general summary of the topography, surface water features, geology, hydrogeology, and groundwater flow conditions near the Station. The information was primarily gathered from the Dresden Station Updated Final Safety Analysis Report (UFSAR), Revision 6, dated June 2005, and the Final Environmental Statement (FES), dated November 1973. The main references the UFSAR relies upon are listed in Section 10.0 of this HIR. CRA checked and verified all UFSAR references that apply to this HIR.

2.4.1 TOPOGRAPHY AND SURFACE WATER FEATURES

The Station is located within the Kankakee River Basin adjacent to the confluence of the Kankakee River and Des Plaines River forming the Illinois River (Willman and Frye, 1969; Frye et al., 1969). In general, the topography of the area slopes downward toward the Kankakee and Illinois Rivers (see Figure 1.1 and United States Geological Topographic Quadrangle Map – Dresden Mosaic, Illinois dated 1994).

Figure 2.1 presents portions of some of the relevant surface water features at the Station such as the Pond, and Hot and Cold Canals. The topography at the Station is generally flat, with a gentle slope down to the Kankakee and Illinois Rivers. Any surface water flows via storm drains and man-made ditches.

There are four rock (rip-rap) lined storm drain basins at the Station that originate in the vicinity of the Units 2/3 Reactor Building. For the purposes of this report, the storm drain basins are the East Drainage Basin, West Drainage Basin, Southwest Drainage Basin, and Southeast Drainage Basin.

The East Drainage Basin drains the area around the southeastern and northeastern perimeter of the Turbine Building, and a portion of the Station area located between Unit 1 and the Kankakee River. The East Drainage Basin discharges to the Unit 1 Intake Canal.

The West Drainage Basin drains the area around the western perimeter of the Turbine Building, as well as the area to the northwest. The West Drainage Basin discharges to the Units 2/3 Discharge Canal through a point located in the west side of the canal.

The Southwest Drainage Basin is located further to the south and west of the Turbine Building and drains storm water via a drainage ditch located on the south edge of the

PA. The Southwest Drainage Basin, during times of heavy rainfall, discharges to the Hot Canal.

The Southeast Drainage Basin is located further to the south and east of the Turbine Building and drains storm water via a drainage ditch located on the southeast edge of the PA. The Southeast Drainage Basin, during times of heavy rainfall, discharges to the Kankakee River (RETEC, 2005).

The primary surface water features within the area of the Station include the Illinois River to the north, the Des Plaines River to the east, and the Kankakee River to the southeast. The Station is located to the south of the intersection of the Kankakee and Des Plaines River that converge to form the Illinois River. Man-made surface water features include two Intake Canals (Unit 1 and Units 2/3) leading from the Kankakee River, two Discharge Canals (Unit 1 and Units 2/3) leading to the Illinois River, the Pond, and two canals leading to and from the Pond known as the Hot and Cold Canals, respectively. There are also small lakes and wetlands to the south and southwest of the Station.

2.4.2 GEOLOGY

Figure 2.3 presents a stratigraphic section of the Station area geology. The geology near the Station is comprised of these stratigraphic units:

- Overburden and Fill Material;
- Pottsville Sandstone;
- Divine Limestone;
- Maquoketa Shale; and
- Galena Dolomite.

Regionally, the overburden typically consists of a Quaternary Age sand and gravel unit and a glacial till unit with some lenses of coarse-grained glacial drift (Frye, 1969; RETEC, 2005). However, in locations bordering major rivers, overburden deposits of alluvial origin exhibiting variable composition and thickness are expected to be predominant. At the Station, overburden deposits are of limited areal extent and consist of highly organic dark brown to black sandy clay with some gravel (RETEC, 2005). Where present at the Station, the thickness of these deposits is typically less than 5 feet. Fill material, consisting of gravel and sand, is present to depths of up to 30 feet below ground surface (bgs) in certain areas within the PA due to construction of the Station.

At the Station, the overburden deposits, where present, are underlain by the Pennsylvanian-aged Pottsville Sandstone. The Pottsville Sandstone is exposed at ground surface in areas where overburden deposits are absent. Regionally, the Pottsville Sandstone exhibits prominent cross bedding, which was observed in the outcrops along the Hot and Cold Canals at the Station (Harza, 1991, 1995; RETEC, 2005). The sandstone is absent north of the Station, and in areas to the west and southeast of the Station according to residential and State well logs. The thickness of the sandstone, where present, near the Station ranges from 25 to 30 feet.

The Ordovician-aged Divine Limestone unconformably underlies the Pennsylvanian-aged Pottsville Sandstone beneath the Station (i.e., intermediary Silurian- and Devonian-aged units are absent) (Harza, 1991, 1995). Regionally, the Divine Limestone is considered part of the Maquoketa Shale Group and has a regional dip to the southeast of approximately 25 feet per mile (Willman, 1975; Harza, 1991, 1995). The Divine Limestone is widely distributed throughout Illinois; however, in some areas it becomes interbedded with shale and can be inseparable from the shales below (Willman, 1975). This is depicted in many of the intermediate well boring logs (Appendix A) at approximately 35 to 40 feet bgs, where a transitional limestone/shale layer was noted. The thickness of the Divine Limestone varies from 25 to 30 feet thick across the Station (Harza, 1991, 1995).

The Ordovician-aged Maquoketa Shale is also part of the Maquoketa Shale Group and consists of dark gray to dark green dolomitic shale (Willman, 1975). The regional thickness of the Maquoketa Shale consistently ranges between 65 and 70 feet; however, the elevation of the shale surface varies significantly. Based on the three deep wells installed by RETEC in March 2005 (DSP-157D, DSP-158D, and DSP-159D), the thickness of the shale at the Station ranged from 64 to 68 feet. Similar to the Divine Limestone, the Maquoketa Shale has a regional dip to the southeast of approximately 25 feet per mile (Willman, 1975; Harza, 1991, 1995).

Beneath the Maquoketa Shale Group lies the Ordovician-aged Galena Dolomite. Regionally, the Galena Dolomite consists of limestone and dolomite formations (Willman, 1975; Burch, 2002; Buschbach, 1964). At the Station, according to RETEC logs (Appendix A), this unit consists of a light-brownish gray to pinkish-white crystalline dolomite.

2.4.3 HYDROGEOLOGY

The hydrogeologic units underlying the Station include the:

- Water table aquifer consisting of the Pottsville Sandstone and Divine Limestone; and
- Deep Aquifer consisting of the Galena Dolomite.

The water table is the uppermost groundwater aquifer. Groundwater in the water table aquifer occurs under unconfined conditions under the Station, and is found within the Pottsville Sandstone and Divine Limestone. The upper flow zone of the water table is defined in the Pottsville Sandstone and the lower flow zone of the water table is defined in the Divine Limestone. The depth to groundwater varies across the Station, ranging from approximately 3 feet bgs to 16 feet bgs (Harza, 1991, 1995; RETEC, 2005). The water table aquifer is monitored by shallow monitoring wells screened within the upper portion of the water table aquifer in the sandstone (20 to 25 feet deep), and intermediate wells (35 and 50 feet deep) screened within the water table aquifer in the limestone.

The Maquoketa Shale is the lower confining unit to the water table aquifer and hydraulically separates the water table aquifer from the lower aquifers at the Station (Harza, 1991, 1995). Regional hydrogeologic reports indicate that vertical migration downward from the water table aquifer is impeded where the Maquoketa Shale is present due to its low permeability acting as an aquitard (Harza, 1991, 1995; RETEC, 2005).

Beneath the impermeable Maquoketa Shale, the Galena Dolomite is the next water-bearing unit and is considered the Deep Aquifer at the Station. The upper portion of the Galena Dolomite is unsaturated as indicated by the apparent dry conditions in the deep wells (RETEC, 2005).

2.5 AREA GROUNDWATER USE

CRA conducted an area wide well inventory of all private, institutional, and public wells within approximately 2 miles of the Station and a total of 109 wells were identified (Appendix B). There are 13 domestic (private) wells, one institutional well, four unknown usage wells, and one well owned by the Station that obtain their water from the deeper (i.e., well depth of 600 feet or greater) bedrock aquifers (see Figure B.1). CRA was unable to confirm all well locations using the Illinois State Geologic Survey's online well database. Regional water supplies at towns to the west and northeast obtain their water supplies from deep aquifers at depths over 600 feet below the Maquoketa Shale.

This shale aquitard prevents water from migrating vertically downward to the production wells.

The groundwater beneath the Station is used for potable purposes. The Station obtains water from one 1,500-foot deep well and one 788-foot deep well completed in the deep bedrock below the Maquoketa Shale. The groundwater withdrawn from these wells is stored in a 100,000-gallon domestic water tank, and is used for potable purposes and to produce demineralized water.

3.0 AREAS FOR FURTHER EVALUATION

CRA considered all Station operations in assessing groundwater quality at the Station. During this process, CRA identified areas at the Station that warranted further evaluation or "AFEs". This section discusses the process by which AFEs were selected.

CRA's identification of AFEs involved the following components:

- Station inspection on March 22 and 23, 2006;
- interviews with Station personnel;
- evaluation of Station systems;
- investigation of confirmed and unconfirmed releases of radionuclides; and
- review of previous Station investigations.

CRA analyzed the information collected from these components combined with information obtained from CRA's study of hydrogeologic conditions at the Station to identify those areas where groundwater potentially could be impacted from operations at the Station.

CRA then designed an investigation to determine whether any confirmed or potential releases or any other release of radionuclides adversely affected groundwater. This entailed evaluating whether existing Station groundwater monitoring systems were sufficient to assess the groundwater quality at the AFEs. If the systems were not sufficient to adequately investigate groundwater quality associated with any AFE, additional monitoring wells were installed by CRA.

The following sections describe the above considerations and the identification of AFEs. The results of CRA's investigation are discussed in Section 5.0.

3.1 SYSTEMS EVALUATIONS

Exelon launched an initiative to systematically assess the structures, systems and components that store, use, or convey potentially radioactively contaminated liquids. Maps depicting each of these systems were developed and provided to CRA for review. The locations of these systems are presented on Figure 3.1. The Station identified a total of 18 systems that contain or could contain potentially radioactively contaminated liquids. The following presents a list of these systems.

| <i>System Identification</i> | <i>Description</i> |
|------------------------------|---|
| Unit 1 | |
| 13 | Emergency Condenser |
| 19 | Fuel Pool Cooling |
| 20 | Radwaste |
| 33 | Condensate |
| 39 | Service Water |
| 54 | Off Gas |
| 57 | Heating Steam |
| Units 2/3 | |
| 13 | Isolation Condenser |
| 19 | Fuel Pool Cooling |
| 20 | Radwaste |
| 23 | High Pressure Coolant Injection (HPCI) System |
| 33 | Condensate |
| 44 | Circulating Water |
| 48 | Reactor Building Equipment Drains Sumps |
| 49 | Turbine Building Equipment Drains Sumps |
| 54 | Off Gas |
| 57 | Heating Steam |
| 89 | High Radiation Sampling System |

After these systems were identified, Exelon developed a list of the various structures, components and areas of the systems (e.g., piping, tanks, process equipment) that handle or could potentially handle any radioactively contaminated liquid. The structures, components, and areas may include:

- aboveground storage tanks;
- condensate vents;
- areas where confirmed or potential historical releases, spills, or accidental discharges may have occurred;
- pipes;
- pools;
- sumps;
- surface water bodies (i.e., basins, pits, ponds, or lagoons);
- trenches;
- underground storage tanks; and
- vaults.

The Station then individually evaluated the various system components to determine the potential for any release of radioactively contaminated liquid to enter the environment. Each structure or identified component was evaluated against the following seven primary criteria:

- location of the component (i.e., basement or second floor of building);
- component construction material (i.e., stainless steel or steel tanks);
- construction methodologies (i.e., welded or mechanical pipe joints);
- concentration of radioactively contaminated liquid stored or conveyed;
- amount of radioactively contaminated liquid stored or conveyed;
- existing controls (i.e., containment and detection); and
- maintenance history.

System components, which were located inside a building or that otherwise had some form of secondary containment, such that a release of radioactively contaminated liquid would not be discharged directly to the environment, were eliminated from further evaluation. System components that are not located within buildings or did not have some other form of secondary containment were retained for further qualitative evaluation of the risk of a release of radioactively contaminated liquid to the environment and potential magnitude of any release.

Exelon's risk evaluation took into consideration factors such as:

- the potential concentration of radionuclides;
- the volume of liquid stored or managed;
- the probabilities of the systems actually containing radioactively contaminated liquid; and
- the potential for a release of radioactively contaminated liquid from the system component.

These factors were then used to rank the systems and system components according to the risk for a potential release of a radioactively contaminated liquid to the environment. The evaluation process resulted in the identification of structures, components, and areas to be considered for further evaluation.

3.2 HISTORICAL RELEASES

CRA also reviewed information concerning confirmed or potential historical releases of radionuclides at the Station, including reports and documentation previously prepared by Exelon and compiled for CRA's review. CRA evaluated this information in identifying AFEs. Any historical releases identified during the course of this assessment, which may have a current impact on Station conditions, are further discussed in Section 3.4.

3.3 STATION INVESTIGATIONS

CRA considered previous Station investigations in the process of selecting the AFEs for the Station. This section presents a summary of the Station's Radiological Environmental Monitoring Program (REMP) and past Station investigations.

3.3.1 POWER PLANT DOCUMENTS-UFSAR REPORT

During the construction of the Station, a series of comprehensive investigations of regional and local geology, surface water, and groundwater conditions were conducted. These studies were performed for a number of purposes including geotechnical evaluations of the underlying bedrock, engineering designs for the Station around the Pond, present and future sources of groundwater, present and future groundwater use, and other engineering and environmental purposes. These studies are documented in the UFSAR and FES for the Station.

3.3.2 RETEC GROUNDWATER INVESTIGATION STUDY

In response to tritium detected in July 2004 groundwater samples collected by the Station, RETEC was contracted to characterize the nature of groundwater flow at the facility and to evaluate the extent of the tritium. RETEC reviewed historical data, installed additional monitoring wells, conducted geophysical logging, completed two rounds of water level measurements, performed slug tests, and sampled groundwater for tritium.

RETEC's groundwater investigation report (dated December 7, 2005) concluded that elevated tritium concentrations were detected in groundwater samples from wells located near the Condensate Storage Tank (CST) System, the Unit 1 Spent Fuel Pool,

Unit 1 Reactor Building, and the Radwaste discharge piping location for Units 2/3. RETEC's investigation revealed that the bulk of the tritium discharged to the groundwater from the CST system and flowed toward the east and northwest under the influence of the local hydraulic gradient. The tritium plume was not likely to move in a southeasterly direction, toward residential wells. On November 30, 2005, Exelon submitted this report to Illinois EPA.

3.3.3 GROUNDWATER MONITORING PROGRAM

The Station has a monitoring program that has identified approximately 54 sampling locations (storm drain system catchbasins, groundwater monitoring wells, and surface water sampling locations), some of which are sampled as often as every day.

3.3.4 RADIOLOGICAL ENVIRONMENTAL MONITORING PROGRAM

The REMP at the Station was initiated in 1966. The REMP includes the collection of multi-media samples including air, surface water, groundwater, fish, sediment, vegetation, local cow milk, and residential potable water. The samples are analyzed for beta and gamma-emitting radionuclides, tritium, iodine-131, and/or strontium as established in the procedures developed for the REMP. The samples are collected at established locations, identified as stations, so that trends in the data can be monitored.

Surface water samples and groundwater samples are collected, as part of REMP at a total of five locations. Surface water samples are collected at two locations upstream of the Station on the Kankakee (D-54) and Des Plaines (D-52) Rivers, and at one location downstream of the Station on the Illinois River (D-51). Groundwater samples are collected from a residential well "RW-1" (D-23), and at the Dresden Island Lock and Dam well (D-35).

In 2005, surface water tritium concentrations in the Kankakee River ranged from the Lower Limit of Detection (LLD) of 200 pCi/L to 720 pCi/L and are considered an upstream source.

An annual report is prepared providing a description of the activities performed and the results of the analysis of the samples collected from the various media. The latest report generated was prepared by Station personnel and is entitled "Dresden Nuclear Power Station Units 1, 2, and 3 Annual Radiological Environmental Operating Report, 1 January through 31 December 2005". This report concluded that the operation of the

Station had no adverse radiological impact on the environment. The annual report is submitted to the NRC.

3.4 IDENTIFIED AREAS FOR FURTHER EVALUATION

CRA used the information contained herein along with its understanding of the hydrogeology at the Station to identify AFEs, which were a primary consideration in the development of the scope of work in the Work Plan. The establishment of AFEs is a standard planning practice in hydrogeologic investigations to focus the investigation activities at areas where there is the greatest potential for impact to groundwater.

Specifically, AFEs were identified based on these six considerations:

- systems evaluations;
- risk evaluations;
- review of confirmed and/or potential releases;
- review of documents;
- review of the hydrogeologic conditions; and
- Station inspection completed on March 22 and 23, 2006.

Prior to CRA completing its analysis and determination of AFEs, Station personnel completed an exhaustive review of all historic and current management of systems that may contain potentially radioactively contaminated liquids.

CRA reviewed the systems identified by the Station, which have the potential for the release of radioactively contaminated liquids to the environment, and groundwater flow at the Station. This evaluation allowed CRA to become familiar with Station operations and potential systems that may impact groundwater. CRA then evaluated information concerning historic releases as provided by the Station. This information, along with a review of the results from historic investigations, was used to refine CRA's understanding of areas likely to have the highest possibility of impacting groundwater. Where at-risk systems or identified historical releases were located in close proximity or were located in areas, which could not be evaluated separately, the systems and historical releases were combined into a single AFE. At times, during the Station investigation, separate AFEs were combined into one or were otherwise altered based on additional information and consideration.

Finally, CRA used its understanding of known hydrogeologic conditions (prior to this investigation) to identify AFEs. Groundwater flow was an important factor in deciding whether to combine systems or historical releases into a single AFE or create separate AFEs. For example, groundwater flow beneath several systems that contain radioactively contaminated liquid that flows toward a common discharge point were likely combined into a single AFE.

Based upon its review of information concerning confirmed or potential historical releases, historic investigations, and the systems at the Station that have the potential for release of radioactively contaminated liquids to the environment combined with its understanding of groundwater flow at the Station, CRA has identified the following as the only AFEs (see Figure 3.1).

AFE-Dresden-1: CST System HPCI Piping for Units 2/3

This AFE was established based on information regarding historical releases of tritiated water in this area. In 1994 there was a leak from the HPCI return piping to the CST. The piping was isolated and repaired. Shallow groundwater monitoring wells were installed at that time. In August of 2004, the wells outside the Units 2/3 Reactor Building identified elevated tritium concentrations resulting from a leak in the HPCI suction piping. The piping was isolated and repaired. In January 2006, the Station personnel identified higher than expected concentrations of tritium in this area as part of its groundwater monitoring program. The HPCI piping in this area was suspect and isolated. The HPCI piping replacement is currently in progress.

AFE-Dresden-2: Unit 1 Spent Fuel Pool

This AFE was established based on information regarding the historical releases in this area consisting of a spent fuel pool overflow. Specifically, in 1989, radioactively contaminated water overflowed from the Unit 1 Fuel Pool. Available data showed soil was removed from the area.

AFE-Dresden-3: Radwaste Discharge Lines for Units 2/3

This AFE was established based on information regarding historical releases in this area, including those in 1984 and 1986. In October 1984 and July 1986 leaks occurred in the Units 2/3 Radwaste discharge piping. Most notably, in November 1999, a leak occurred on Units 2/3 Radwaste River Discharge Canal pipe. The piping was excavated and subsequently replaced.

AFE-Dresden-4: Piping from CST System and Storm Drain to Unit 1 Intake Canal

This AFE was established based on information regarding a historical release in this area due to a leak in an underground contaminated demineralized water (CDW) pipe. The water flowed into a storm drain that led to the Unit 1 Intake Canal.

4.0 FIELD METHODS

The field investigations completed for this HIR were completed in May and June 2006. Supplemental field activities were completed in July and August 2006. CRA supervised the installation of monitoring wells, collected samples from the newly-installed and existing monitoring wells, and collected samples from surface water locations. The field investigations were completed in accordance with the methodologies presented in the Work Plan (CRA, 2006).

4.1 SURFACE WATER ELEVATION MONITORING POINTS

Water levels in surface water bodies were measured from four surface water elevation monitoring points (SW-DN-101, SW-DN-102, SW-DN-103, and SW-DN-106) in June 2006 using a portable water level meter from fixed locations on bridges. During the August 2006 supplemental field activities, surface water elevations were measured from seven surface water elevation monitoring points (SW-DN-101, -102, -103, -104, -105, -106, and -107). The surface water elevation monitoring points are presented on Figure 4.1. Staff gauges were not installed at the Station due to safety concerns. Surface water elevations at locations SW-DN-104, -105, and -107 were not collected in May 2006 due to safety concerns at that time.

4.2 GROUNDWATER MONITORING WELL INSTALLATION

Sixteen new monitoring wells were installed for the fleetwide hydrogeologic investigation in May 2006. An additional 21 new monitoring wells were installed in July 2006 for the fleetwide hydrogeologic investigation. The additional wells were installed to further characterize the groundwater flow system and to determine the impact of surface water in the canals on groundwater flow directions. Monitoring well construction logs are provided in Appendix A. Figure 4.2 presents the locations of the 37 new monitoring wells and the existing monitoring wells at the Station. These locations were selected based on a review of all data provided, the hydrogeology at the Station, the existing well locations, and current understanding of identified AFEs. Table 4.1 summarizes the well completion details. The shallow boreholes were advanced into the bedrock from approximately 20 feet bgs to 42 feet bgs based upon the depth of the Pottsville Sandstone Formation, with the exception of locations MW-DN-102S (15 feet bgs) and MW-DN-107S (15 feet bgs). MW-DN-102S could not be advanced beyond 15 feet bgs due to complications with drilling and MW-DN-107S was only set on top of the bedrock and screened within the fill material at the Station. The

intermediate boreholes were advanced into the bedrock from approximately 50 feet bgs to 61 feet bgs depending upon the depth to the Maquoketa Shale Formation.

Prior to completing any ground penetration activities, CRA completed subsurface utility clearance procedures to minimize the potential of injury to workers and/or damage to subsurface utility structures. The subsurface clearance procedures consisted of completing an electronic survey within a minimum of 10-foot radius of the proposed location utilizing electromagnetic and ground penetrating radar technology. Additionally, an air knife was utilized to verify utilities were not present at the proposed location to a depth to 10 feet bgs.

Specific installation protocols for the shallow and intermediate monitoring wells are described below:

- the borehole was advanced to the target depth by an air rotary drill equipped with a 6-inch outer diameter drill bit;
- a nominal 2-inch diameter (No. 10 slot) PVC screen, 10 feet in length, attached to a sufficient length of 2-inch diameter schedule 40 PVC riser pipe to extend to the surface, was placed into the borehole through the augers;
- a filter sand pack consisting of silica sand was installed to a minimum height of 2 feet above the top of the screen as the augers were removed;
- a minimum 2-foot thick seal consisting of 3/8-inch diameter bentonite pellets or chips was placed on top of the sand pack and hydrated using potable water;
- the remaining borehole annulus was sealed to within 3 feet of the surface using pure bentonite chips; and
- the remaining portion of the annulus was filled with concrete and a 6-inch diameter protective above-grade casing. The wellhead was fitted with a watertight, lockable cap.

4.3 GROUNDWATER MONITORING WELL DEVELOPMENT

In order to establish good hydraulic communication with the aquifer and reduce the volume of sediment in the newly installed monitoring wells, monitoring well development was conducted in accordance with the procedure outlined below:

- monitoring wells were surged using a pre-cleaned surge block or bailer for a period of at least 10 minutes;

- water was purged from the monitoring well using an electric submersible or peristaltic pump;
- groundwater was collected at regular intervals and the pH, temperature, and conductivity were measured using field instruments. These instruments were calibrated daily according to the manufacturer's specifications. Additionally, observations such as color, odor, and turbidity of the purged water were recorded; and
- development continued until the turbidity and silt content of the monitoring wells were significantly reduced and three consistent readings of pH, temperature, and conductivity were recorded, or a maximum of ten well volumes were purged.

Thirty-six of 37 newly installed monitoring wells were developed in accordance with this monitoring well development procedure. Monitoring well MW-DN-123S was dry upon installation and was therefore not developed.

A summary of monitoring well development parameters is provided in Table 4.2.

4.4 SURVEY

The new monitoring wells and surface water sampling locations were surveyed to establish reference elevations relative to mean sea level. The top of each well casing was surveyed to the nearest 0.01 foot relative to the North American Vertical Datum, 1988 (NAVD 88), and the survey point was marked on the well casing. The survey included the ground elevation at each well to the nearest 0.10 foot relative to the NAVD 88, and the well location to the nearest 1.0 foot. A reference point was also marked on the bridge surface or railing.

4.5 GROUNDWATER AND SURFACE WATER ELEVATION MEASUREMENTS

On May 22, 2006 and again on August 7, 2006, CRA collected a round of water level measurements from the monitoring wells and surface water elevation monitoring points at the Station in accordance with the Work Plan. Based on the measured depth to water from the reference point and the surveyed elevation of the reference point, the groundwater or surface water elevation was calculated. A summary of groundwater elevations for the event is provided in Table 4.3. A summary of surface water elevations for the event is provided in Table 4.4.

Prior to the water level measurements, the wells were identified and located. Once the wells were identified, CRA completed a thorough inspection of each well and noted any deficiencies. Water level measurements were collected using an electronic depth-to-water probe accurate to ± 0.01 foot. The measurements were made from the designated location on the inner riser or steel casing of each monitoring well, and on the reference point for each surface water elevation monitoring point. The water level measurements were obtained using the following procedures:

- the proper elevation of the meter was checked by inserting the tip into water and noting if the contact was registering correctly;
- the tip was dried, and then slowly lowered into the well until contact with the water was indicated;
- the tip was slowly raised until the light and/or buzzer just began to activate. This indicated the static water level;
- the reading at the reference point was noted to the nearest hundredth of a foot;
- the reading was then re-checked; and
- the water level was then recorded, and the water level meter decontaminated prior to use at the next well location.

4.6 GROUNDWATER AND SURFACE WATER SAMPLE COLLECTION

CRA conducted one round of groundwater sampling during the completion of the Work Plan for these hydrogeologic investigations. A total of 45 monitoring wells were sampled between May 23 and June 2, 2006. Of the 45 monitoring wells sampled, 16 were newly installed. In addition, between August 7, 2006 to August 14, 2006, CRA conducted a supplemental round of groundwater sampling of 21 newly installed wells (installed in July 2006) and one previously installed groundwater well. The sampling for each event was scheduled to allow for 2 weeks to elapse between well development and groundwater sample collection. The existing wells were selected for inclusion in this investigation based on their proximity to AFEs.

At the monitoring well locations, CRA conducted the sampling using pneumatic bladder pumps or peristaltic pumps and dedicated polyethylene tubing to employ low flow purging techniques as described in Puls and Barcelona (1996).

The groundwater in the monitoring wells was sampled by the following low-flow procedures:

- the wells were located and the well identification numbers were verified;
- a water level measurement was taken;
- the well was sounded by carefully lowering the water level tape to the bottom of the well (so as to minimize penetration and disturbance of the well bottom sediment), and comparing the sounded depth to the installed depth to assess the presence of any excess sediment or drill cuttings;
- the pump or tubing was lowered slowly into the well and fixed into place such that the Intake was located at the mid-point of the well screen, or a minimum of 2 feet above the well bottom/sediment level;
- the purging was conducted using a pumping rate between 100 to 500 milliliters per minute. Initial purging began using the lower end of this range. The groundwater level was monitored to ensure that a drawdown of less than 0.3 foot occurred. If this criterion was met, the pumping rate was increased dependent on the behavior of the well. During purging, the pumping rate and groundwater level were measured and recorded approximately every 10 minutes;
- the field parameters [pH, temperature, conductivity, oxidation-reduction potential (ORP), dissolved oxygen (DO), and turbidity] were monitored during the purging to evaluate the stabilization of the purged groundwater. Stabilization was considered to be achieved when three consecutive readings for each parameter, taken at 5-minute intervals, were within the following limits:

pH ± 0.1 pH units of the average value of the three readings,

Temperature ± 3 percent of the average value of the three readings,

Conductivity ± 0.005 milliSiemen per centimeter (mS/cm) of the average value of the three readings for conductivity <1 mS/cm and ± 0.01 mS/cm of the average value of the three readings for conductivity >1 mS/cm,

ORP ± 10 millivolts (mV) of the average value of the three readings,

DO ± 10 percent of the average value of the three readings, and

Turbidity ± 10 percent of the average value of the three readings, or a final value of less than 5 nephelometric turbidity units (NTUs);

- once purging was complete, the groundwater samples were collected directly from the pump/tubing directly into the sample containers; and

- in the event that the groundwater recharge to the monitoring well was insufficient to conduct the low-flow procedure, the well was pumped dry and allowed to sufficiently recharge prior to sampling.

All groundwater samples were labeled with a unique sample number, the date and time, the parameters to be analyzed, the job number, and the sampler's initials. For the May and June 2006 sampling event, the samples were screened by the Station for shipment to Teledyne Brown Engineering Inc. (Teledyne Brown). For the August 2006 sampling event, groundwater samples were shipped to Teledyne Brown based on screening results obtained during well development activities.

Due to the limited volume of water available for collection in monitoring well MW-DN-123S, the monitoring well was not purged and a bailer was used to collect a groundwater sample for tritium only (insufficient volume of groundwater remained to sample for strontium-89/90 or gamma-emitting radionuclides).

Field measurements for the hydrogeologic investigation are presented in Table 4.5 and a sample key is provided in Table 4.6.

CRA containerized the water purged from the monitoring wells during the sampling, as well as the water purged from all of the wells during the hydrogeologic investigation. The water was placed into 55-gallon drums, which will be processed by the Station in accordance with its NPDES permit.

Surface water samples were collected from May 23 to June 2, 2006 at the Units 2/3 Intake Canal (SW-DN-101), Units 2/3 Discharge Canal (SW-DN-102), Recycling Canal (SW-DN-103), Hot Canal (SW-DN-104), Cold Canal (SW-DN-105) and the Pond (SW-DN-106). The surface water sampling locations are presented on Figure 4.1.

The surface water samples were collected by directly filling the sample container from the composite samplers at the determined locations until completely filled. A sample key is presented in Table 4.6.

4.7 DATA QUALITY OBJECTIVES

CRA has validated the analytical data to establish the accuracy and completeness of the data reported. Teledyne Brown provided the analytical services. The Quality Assurance Program for the laboratory is described in Appendix C. Analytical data for groundwater and surface water samples collected in accordance with the Work Plan are

presented in Appendix D. Data validation reports are presented in Appendix E. The data validation included the following information and evaluations:

- sample preservation;
- sample holding times;
- laboratory method blanks;
- laboratory control samples;
- laboratory duplicates;
- verification of laboratory qualifiers; and
- field quality control (field blanks and duplicates).

Following the completion of field activities, CRA compiled and reviewed the geologic, hydrogeologic, and analytical data.

The data were reviewed using the following techniques:

- data tables and databox figures;
- hydrogeologic cross-sections; and
- hydraulic analyses.

4.8 SAMPLE IDENTIFICATION

Systematic sample identification codes were used to uniquely identify all samples. The identification code format used in the field was: WG - DN - DSP-152 - 052306 - JH - 001. A summary of sample identification numbers is presented in Table 4.6.

| | | |
|---------|---|-------------------------------|
| WG | - | Sample matrix -groundwater |
| WS | - | Sample matrix - surface water |
| RB | - | Sample matrix – rinse blank |
| DN | - | Station code |
| DSP-152 | - | Well location |
| 052306 | - | Date |
| JH | - | Sampler initial |
| 001 | - | Sample number |

4.9 CHAIN-OF-CUSTODY RECORD

The samples were delivered to Station personnel under chain-of-custody protocol. Subsequently, the Station shipped the samples under chain-of-custody protocol to Teledyne Brown for analyses.

4.10 QUALITY CONTROL SAMPLES

Quality control samples were collected to evaluate the sampling and analysis process.

Field Duplicates

Field duplicates were collected to verify the accuracy of the analytical laboratory by providing two samples collected at the same location and then comparing the analytical results for consistency. Field duplicate samples were collected at a frequency of one duplicate for every ten samples collected. A total of four duplicate samples were collected. The locations of duplicate samples were selected in the field during the performance of sample collection activities. The duplicate samples were collected simultaneously with the actual sample and were analyzed for the same parameters as the actual samples.

Split Samples

During the May/June 2006 sampling event, split samples were collected for the NRC for tritium simultaneously with the actual sample at every sample location. Split samples were delivered to the Station personnel and made available to the NRC and Illinois Environmental Protection Agency (EPA).

During the August 2006 sampling event, split samples were collected for the NRC and for the Illinois Emergency Management Agency (IEMA) for tritium simultaneously with the actual sample at every sample location. Split samples were delivered to the Station personnel and made available to the NRC, IEMA, and Illinois EPA.

4.11 ANALYSES

Groundwater and surface water samples were analyzed for tritium and gamma-emitting radionuclides as listed in NUREG-1302 and strontium-89/90 as listed in 40 CFR 141.25.

5.0 RESULTS SUMMARY

This section provides a summary of Station-specific geology and hydrogeology, along with a discussion of hydraulic gradients, groundwater elevations, and flow directions in the vicinity of the Station. This section also presents and evaluates the analytical results obtained from activities performed in accordance with the Work Plan.

5.1 STATION GEOLOGY

The geology encountered during the monitoring well installation activities is consistent with the geology described in Section 2.4.2 and the geology described by RETEC (RETEC, 2005). The geology beneath the Station consists of a relatively thin overburden deposit that overlies layers of sandstone, limestone, shale, and dolomite. Geologic cross-section locations are shown on Figure 5.1 and the geologic lines of sections are shown on Figures 5.2 and 5.3, respectively. Geological units at the Station consist of the following:

- Thin layer of overburden and fill;
- Pottsville Sandstone Formation;
- Divine Limestone Formation;
- Maquoketa Shale; and
- Galena Dolomite Formation.

Where present, the overburden ranges between 0 and 5 feet thick at the Station and consists of highly organic dark brown to black sandy clay with some gravel. During construction of the Station, fill consisting of gravel and sand was used to replace the overburden within the PA. At monitoring well MW-DN-108I, fill was encountered to a depth of approximately 26 feet bgs. According to Station personnel, MW-DN-108I was drilled over the abandoned intake trough for the Unit 1 cooling water from the Unit 1 Cribhouse. There is approximately 12 feet of fill along the east bank of the Hot Canal near well cluster DSP-159; the fill was placed several years ago during construction. Monitoring well MW-DN-107S was also installed in the fill in the PA.

The Pottsville Sandstone Formation is a hard, gray to yellowish-brown, medium- to coarse-grained sandstone. The Pottsville Sandstone Formation is prevalent beneath the entire area of the Station as shown on Figures 5.2 and 5.3. The thickness of the sandstone near the Station ranges from 25 to 30 feet. Monitoring wells MW-DN-101S to -106S, -109S to -116S, and -118S to -123S are all screened within the Pottsville Sandstone

Formation. According to RETEC, the Pottsville Sandstone Formation was not encountered during drilling activities to the south of the Station at well clusters DSP-158 or DSP-159.

The Divine Limestone Formation is below the Pottsville Sandstone Formation and is a hard, light-gray crystalline limestone. A transitional zone was noted between the Divine Limestone and the underlying Maquoketa Shale at approximately 40 to 55 feet bgs where the Divine Limestone Formation had interbedded layers of shale and traces of chert present. The thickness of the Divine Limestone Formation across the Station is approximately 15 to 30 feet. Monitoring wells MW-DN-101I, -102I, -103I, -108I to -117I, and -119I to -123I are all screened within the Divine Limestone Formation.

The Maquoketa Shale is below the Divine Limestone Formation and is a hard, pale-green to gray shale with some locations having trace amounts of sandstone and limestone. The Maquoketa Shale acts as a confining layer and aquitard at the Station, separating the water table aquifer from the Deep Aquifer below. To identify the bottom of the water table aquifer, the boring was advanced approximately 2 feet into the top of the Maquoketa Shale during installation of intermediate monitoring wells. The depth to the top of the shale ranged from 45 to 55 feet.

Underneath the Maquoketa Shale is the Galena Dolomite Formation; however, it was not encountered during the HIR drilling because none of the newly installed wells penetrated the overlying Maquoketa Shale. The existing monitoring wells at the Station that are set into the upper portion of the Galena Dolomite Formation (DSP-157D, DSP-158D, and DSP-159D) were dry when monitored during the HIR.

Two geologic cross-sections were generated employing the stratigraphic data collected during this investigation. The geologic cross-section locations are shown on Figure 5.1 and the geologic lines-of-sections trending north-south and east-west are shown on Figures 5.2 and 5.3, respectively.

Geologic cross-section A-A' (Figure 5.2) is a north-south section running through the center of the Units 2/3 Reactor and Turbine Building and depicts the approximate depth and location of the buildings with respect to the surrounding wells. This cross-section begins to the north of the PA (DSP-149) and terminates to the south of the PA (DSP-157M). This cross-section transects through the middle of the Radwaste Discharge Piping for Units 2/3 and portions of the CST System HPCI Piping.

Geologic cross-section B-B' (Figure 5.3) is a west-east section through the northern section of the Station. This cross-section begins at the western end of the PA

(MW-DN-110I) at the Station and terminates near the northeastern end of the Station close to the fence line bordering the Unit 1 Intake Canal (MW-DN-101I). This cross-section transects through the Radwaste Discharge Piping for Units 2/3 and the northern portions of the Unit 1 Spent Fuel Pool and the CDW Piping from the CST System.

5.2 STATION HYDROGEOLOGY

The water table aquifer at the Station has been divided into two zones, shallow and intermediate. Groundwater contour maps for shallow and intermediate groundwater zones at the Station are illustrated on Figures 5.4 and 5.5, respectively. These figures are discussed further in the section below.

The shallow groundwater zone at the Station represents the saturated portion of the Pottsville Sandstone Formation and extends to the top of the Divine Limestone Formation.

The intermediate groundwater zone at the Station represents the Divine Limestone Formation and extends to the top of the Maquoketa Shale.

The Maquoketa Shale acts as an aquitard, impeding the vertical movement of groundwater and preventing the migration of groundwater downward to the deeper aquifers.

5.2.1 GROUNDWATER FLOW DIRECTIONS

Generally, groundwater flow in both the shallow and intermediate zones at the Station is radially outward from the Station, and is influenced by the Kankakee River, the Illinois River, and the canal network.

The direction of groundwater flow towards the Kankakee and Illinois Rivers is consistent with the description of regional groundwater flow in Section 2.4.3. Both shallow and intermediate groundwater flow have been influenced by the Station's construction, which includes features such as the Unit 1 and Units 2/3 Buildings and the canal network, as discussed in Section 5.2.2.

As indicated in the preceding discussion, the hydrogeologic framework at the Station is influenced by zones of recharge (i.e., area between the canal network and Kankakee

River) and discharge (i.e., Kankakee River and canal network), fracturing (both natural and man-made during Station construction), building foundations, and the canal network.

Shallow Groundwater Zone

The groundwater flow contours on Figure 5.4 were generated using groundwater elevation data from monitoring wells completed in the Pottsville Sandstone Formation and from water levels in the canals. The groundwater flow pattern and water levels in the canal network in the shallow groundwater flow zone are primarily controlled by the location of recharge and discharge zones, and secondarily by man-made structures and fracture distribution and orientation. The shallow groundwater contours parallel the surface water bodies, indicating that the surface water bodies control the groundwater flow patterns in this zone.

A groundwater mound exists to the south of the Units 2/3 Buildings with a high point located at DSP-157S (515.84 feet AMSL) as shown on Figure 5.4.

Intermediate Groundwater Zone

The groundwater flow contours shown on Figure 5.5 were generated using groundwater elevation data from monitoring wells completed in the Divine Limestone Formation. The groundwater flow patterns in the Divine Limestone Formation are primarily controlled by fracture distribution and orientation, and the location of recharge and discharge zones. Secondary influences include man-made structures such as the Station's foundations.

As in the shallow groundwater zone, groundwater in the intermediate zone flows radially outward from the center of the Station. A northwest-southeast oriented groundwater divide is evident and is defined by the groundwater elevation in monitoring wells DSP-125 (513.11 feet AMSL) and DSP-152 (513.02 feet AMSL), which are located south of the PA.

5.2.2 MAN-MADE INFLUENCE ON GROUNDWATER FLOW

Station Structures

Groundwater flow in the shallow zone is generally radially outward from the center of the Station. The groundwater flow is influenced by the presence of the Unit 1 Sphere,

Units 2/3 Reactor and Turbine Buildings, and associated structures including the Unit 1 and Units 2/3 Radwaste Buildings, the Units 2/3 Off-gas Filter Building, the Unit 1 and Units 2/3 Cribhouses, and the Unit 1 Fuel Pool and Fuel Handling Buildings. Worksheets depicting building depths were provided by Station personnel during the completion of this HIR. These buildings were constructed through bedrock (sandstone and limestone) to a depth of approximately 45 to 50 feet bgs and were cast on top of the confining shale layer (Maquoketa Shale) (see Figure 5.2).

As a result, groundwater flows laterally around these structures. There is little variation in geology around the Unit 1 Sphere; however, the groundwater contours for both shallow and intermediate groundwater zones show a slight deflection to the north on the eastern side of the Unit 1 Sphere. The Unit 1 Turbine Building was also constructed through bedrock, but not cast on top of Maquoketa Shale. The depth of its foundations is approximately 26 feet bgs. Therefore, groundwater in the intermediate zone of the water table aquifer flows beneath the Unit 1 Turbine Building.

Canal System

The Canal System at the Station also influences groundwater flow. Both the Hot and Cold Canals are unlined flumes, 8 feet deep and 55 feet wide, which were blasted into the bedrock. Therefore, the base of the canals, especially at the northern end, is within the Pottsville Sandstone.

The canal system flow regimes are controlled by Flow Regulating Gates. Water levels within the canals, especially the Hot Canal, may vary as much as 1 to 2 feet during the day based on the Station's need for cooling water. Water levels in the canals are also influenced by the operation of the cooling towers located along their banks and to the southwest of the PA. The pumps and discharge flumes that are associated with these systems are cycled on and off as needed. Monitoring wells located near the canal and the Cooling Tower Pumps and Discharge Flumes include DSP-127, MW-DN-110S/I, MW-DN-103S/I, MW-DN-121S, MW-DN-123S/I, DSP-159S/M, and DSP-126. These wells will be influenced by the varying water levels in the canals and the accompanying surface water discharge to groundwater.

The Units 2/3 Intake Canal also has an effect on the groundwater levels at the Station as shown on Figure 5.5. There is a groundwater low point to the north of the PA in this area. This low point is attributable to the fact that surface water from the Kankakee River is being pumped into the Units 2/3 Cribhouse within the unlined Units 2/3 Intake Canal, and groundwater is being influenced by the pumping of surface water in this area.

Industrial Cooling Pond

The Hot and Cold Canals run generally north-south to the Industrial Cooling Pond (Pond). The Pond, which covers approximately 1,284 acres, is over 8,700 feet south of the PA (Figure 2.1). The Pond was formed by constructing a clay dike around a low lying area. Approximately 100 drain tiles were installed to drain water from the low lying areas to the Kankakee River. When the pond was constructed these drain tiles were filled with concrete.

The Pond is not lined and is located along the west bank of the Kankakee River. The surface water in the Hot Canal flows south to the Pond and then water from the Pond flows back to the north through the Cold Canal.

Dresden Island Lock and Dam

The normal pool elevation for the Kankakee and Des Plaines Rivers, which join to form the Illinois River, is 505 feet AMSL. Dresden Island Lock and Dam, located approximately 3,000 feet northwest of the Station, control the pool elevation. This lock and dam (which is controlled by the Army Corps of Engineers) also controls the surface water elevations in the Unit 1 and Units 2/3 Intake Canals and the Unit 1 Discharge Canal.

5.2.3 VERTICAL HYDRAULIC GRADIENTS

Groundwater elevation data from several monitoring well nests installed at the Station have been used to calculate the vertical hydraulic gradient between the shallow and intermediate groundwater zones. The calculated hydraulic gradients for the Station are provided in Table 5.1. A moderate downward vertical gradient (0.062 feet/foot) was calculated to the west of the Units 2/3 Building. A moderate downward vertical gradient (0.0215 feet/foot) was also calculated for the well clusters east of the Unit 1 Turbine Building. At the MW-DN-114 well cluster, which is located south of the turbine buildings in a cove between the Unit 2/3 and Unit 1 Turbine Buildings, a strong upward gradient (-0.332 feet/foot) was calculated. A strong upward gradient was also calculated for well cluster MW-DN-123 (-0.566 feet/foot). The average calculated vertical gradient at the Station is approximately -0.02 feet/foot, which indicates that there is an upward gradient across the Station.

5.2.4 LATERAL GROUNDWATER FLOW AND VELOCITY

Shallow Groundwater Zone

Groundwater flow velocity for the shallow zone was calculated using a hydraulic conductivity (slug test methodology) of 34.3 feet per day (RETEC, 2005), a porosity of 30 percent for the Pottsville Sandstone, and a hydraulic gradient of 0.002 to 0.009 foot per foot (based on August 2006 water elevations). The groundwater flow velocity for the shallow zone was calculated to range from 87 to 355 feet per year (ft/yr).

Intermediate Groundwater Zone

Groundwater flow velocity for the intermediate zone was calculated using a hydraulic conductivity (slug test methodology) of 0.67 feet per day (RETEC 2005), a porosity of 10 percent for the Divine Limestone, and a hydraulic gradient of 0.007 to 0.09 foot per foot (based on August 2006 water elevations). The groundwater flow velocity for the intermediate zone was calculated to range from 17 to 225 ft/yr.

The horizontal velocities are representative of the area south of the Units 2/3 Turbine Building since the wells used by RETEC to develop the hydraulic conductivities are located in that area.

5.3 GROUNDWATER QUALITY

CRA personnel collected groundwater samples from 66 monitoring wells at the Station. The samples were analyzed for tritium and additional radionuclides. Teledyne Brown provided the analytical services. The Quality Assurance Program for the laboratory is described in Appendix C. The analytical data reports are provided in Appendix D.

The analytical data presented herein has been subjected to CRA's data validation process. CRA has used the data with appropriate qualifiers where necessary.

The data reported in the figures and tables does not include the results of recounts that the laboratory completed, except if those results ultimately replaced an initial report. The tables and figures, therefore, include only the first analysis reported by the laboratory. Where multiple samples were collected over time, then the most recent result has been used in the discussion, below.

5.3.1 SUMMARY OF BETA-EMITTING RADIONUCLIDES ANALYTICAL RESULTS

A summary of the tritium results for the groundwater samples collected during this investigation is provided in Table 5.2 and shown on Figures 5.6 and 5.7.

All tritium concentrations were less than the United States Environmental Protection Agency (USEPA) drinking water standard of 20,000 pCi/L. Tritium was detected at concentrations greater than the LLD of 200 pCi/L.

All strontium-90 concentrations were less than the USEPA drinking water standard of 8.0 pCi/L.

Tritium was detected in groundwater samples from nine locations in the shallow groundwater zone at concentrations ranging from 220 ± 114 pCi/L to $4,250 \pm 475$ pCi/L.

Tritium was detected in groundwater samples from twenty-one wells in the intermediate groundwater zone at concentrations ranging from 210 ± 124 pCi/L to $13,200 \pm 319$ pCi/L. The highest concentration was detected in the groundwater sample collected from DSP-123, which was installed in the intermediate groundwater zone to the north of the Unit 1 Sphere.

A summary of the strontium-89/90 results for the groundwater samples collected as part of the investigation that is the subject of this HIR is provided in Table 5.3 and shown on Figures 5.8 and 5.9. Strontium-89/90 was detected in one monitoring well (MW-DN-108I) at a concentration greater than the LLD of 2.0 pCi/L. In August 2006, a sample was collected from this well, and strontium-89/90 was detected at a concentration of 2.72 ± 1.01 pCi/L. This sample was further analyzed for strontium-90, which was detected at a concentration of 2.17 ± 0.783 pCi/L. Furthermore, a duplicate of this sample was analyzed for total strontium and strontium-90. Since the strontium-90 results exceeded the sum of the total strontium in the duplicate sample, it has been concluded that the results of this sample are invalid.

In May 2006, a sample was collected from this monitoring well (MW-DN-108I). Analyses in July 2006 detected strontium-89/90 at a concentration of 4.42 ± 1.23 pCi/L. In July 2006, this sample was further analyzed for strontium-90, which was detected at a concentration of 4.37 ± 0.66 pCi/L. In July 2006, the sample was re-analyzed and strontium-89/90 was detected at a concentration of 3.39 ± 0.774 pCi/L. In July 2006, this sample was further analyzed for strontium-90, which was detected at a concentration of 2.72 ± 1.29 pCi/L. Because the total strontium from these two samples varied by almost

40 percent and the margin of error was nearly 50 percent, it became necessary to run a third analysis to verify what, if any, detectable concentration existed. This could not be completed for the May 2006 samples due to the samples becoming contaminated at the analytical laboratory. Normal protocol for an anomalous positive result is to perform a confirmatory sampling and analysis of the respective well. Consequently, the well MW-DN-108I was re-sampled in August 2006, as discussed above.

5.3.2 SUMMARY OF GAMMA-EMITTING RADIONUCLIDES ANALYTICAL RESULTS

Gamma-emitting target radionuclides were not detected at concentrations greater than their respective LLDs. A summary of the gamma-emitting radionuclides results for the groundwater samples collected as part of the investigation that is the subject of this HIR is provided in Table 5.3 and shown on Figures 5.8 and 5.9.

Other non-targeted radionuclides were also included in the tables but excluded from discussion in this report. These radionuclides were either a) naturally occurring and thus not produced by the Station, or b) could be definitively evaluated as being naturally occurring due to the lack of presence of other radionuclides which would otherwise indicate the potential of production from the Station.

5.3.3 SUMMARY OF FIELD MEASUREMENTS

Table 4.5 presents of a summary of field measurements collected during the well purging and sampling activities. These field measurements included pH, dissolved oxygen, conductivity, turbidity and temperature. The field parameters were typical of a shallow aquifer with carbonate source rock (i.e., the underlying Divine Limestone Formation and Maquoketa Shale). As such, the pH values were found to be above 7.0 and the conductivity was indicative of a shallow water table system subject to surface water recharge.

5.4 SURFACE WATER QUALITY

Six surface water samples were collected from the locations shown on Figure 4.1. The samples were analyzed for tritium, gamma-emitting radionuclides, and strontium-89/90. Teledyne Brown provided the analytical services. The Quality

Assurance Program for the laboratory is described in Appendix C. The analytical data reports are provided in Appendix D.

5.4.1 SUMMARY OF BETA-EMITTING RADIONUCLIDES ANALYTICAL RESULTS

Tritium was not detected at concentrations greater than the LLD of 200 pCi/L. A summary of the tritium results for the surface water samples collected in this investigation is provided in Table 5.4 and shown on Figure 5.6.

Strontium-89/90 was not detected at concentrations greater than the LLD of 2.0 pCi/L. A summary of the strontium-89/90 analytical results for the surface water samples collected in this investigation is provided in Table 5.5 and shown on Figure 5.8.

5.4.2 SUMMARY OF GAMMA-EMITTING RADIONUCLIDES ANALYTICAL RESULTS

Gamma-emitting target radionuclides were not detected at concentrations greater than their respective LLDs. A summary of the gamma-emitting radionuclides results for the surface water samples collected in this investigation is provided in Table 5.5 and shown on Figure 5.8.

Other non-targeted radionuclides were also included in the tables but excluded from discussion in this report. These radionuclides were either a) naturally occurring and thus not produced by the Station, or b) could be definitively evaluated as being naturally occurring due to the lack of presence of other radionuclides which would otherwise indicate the potential of production from the Station.

6.0 RADIONUCLIDES OF CONCERN AND SOURCE AREAS

This section discusses radionuclides evaluated in this investigation, potential sources of the radionuclides detected, and their distribution.

6.1 GAMMA-EMITTING RADIONUCLIDES

Gamma-emitting target radionuclides were not detected at concentrations greater than their respective LLDs. Other non-targeted radionuclides were also included in the tables but excluded from the discussion in this report. These radionuclides were either a) naturally occurring and thus not produced by the Station, or b) could be definitively evaluated as being naturally occurring due to the lack of presence of other radionuclides which would otherwise indicate the potential of production from the Station.

6.2 BETA-EMITTING RADIONUCLIDES

Strontium-89/90 was detected in one monitoring well (MW-DN-108I) at a concentration greater than the LLD of 2.0 pCi/L. In August 2006, a sample was collected from this well, and strontium-89/90 was detected at a concentration of 2.72 ± 1.01 pCi/L. This sample was further analyzed for strontium-90, which was detected at a concentration of 2.17 ± 0.783 pCi/L. Furthermore, a duplicate of this sample was analyzed for total strontium and strontium-90. Since the strontium-90 results exceeded the sum of the total strontium in the duplicate sample, it has been concluded that the results of this sample are invalid.

In May 2006, a sample was collected from this monitoring well (MW-DN-108I). Analyses in July 2006 detected strontium-89/90 at a concentration of 4.42 ± 1.23 pCi/L. In July 2006, this sample was further analyzed for strontium-90, which was detected at a concentration of 4.37 ± 0.66 pCi/L. In July 2006, the sample was re-analyzed and strontium-89/90 was detected at a concentration of 3.39 ± 0.774 pCi/L. In July 2006, this sample was further analyzed for strontium-90, which was detected at a concentration of 2.72 ± 1.29 pCi/L. Because the total strontium from these two samples varied by almost 40 percent and the margin of error was nearly 50 percent, it became necessary to run a third analysis to verify what, if any, detectable concentration existed. This could not be completed for the May 2006 samples due to the samples becoming contaminated at the analytical laboratory. Normal protocol for an anomalous positive result is to perform a confirmatory sampling and analysis of the respective well. Consequently, the well MW-DN-108I was re-sampled in August 2006, as discussed above.

Tritium was detected at concentrations greater than the LLD of 200 pCi/L. Detectable concentrations of tritium ranged from 210 ± 124 pCi/L to $13,200 \pm 319$ pCi/L. The following sections focus on tritium and strontium; specifically, providing general characteristics of tritium and strontium, potential sources, distribution in groundwater, and a conceptual model for migration.

6.3 TRITIUM

6.3.1 GENERAL CHARACTERISTICS

Tritium (chemical symbol H-3) is a radioactive isotope of hydrogen. The most common forms of tritium are tritium gas and tritium oxide, which is also called "tritiated water." The chemical properties of tritium are essentially those of ordinary hydrogen. Tritiated water behaves the same as ordinary water in both the environment and the body. Tritium can be taken into the body by drinking water, breathing air, eating food, or absorption through skin. Once tritium enters the body, it disperses quickly and is uniformly distributed throughout the body. Tritium is excreted primarily through urine within a month or so after ingestion. Organically bound tritium (tritium that is incorporated in organic compounds) can remain in the body for a longer period.

Tritium is produced naturally in the upper atmosphere when cosmic rays strike air molecules. Tritium is also produced during nuclear weapons explosions, as a by-product in reactors producing electricity, and in special production reactors, where the isotopes lithium-7 and/or boron-10 are bombarded to produce tritium.

Although tritium can be a gas, its most common form is in water because, like non-radioactive hydrogen, radioactive tritium reacts with oxygen to form water. Tritium replaces one of the stable hydrogen atoms in the water molecule and is called tritiated water. Like normal water, tritiated water is colorless and odorless. Tritiated water behaves chemically and physically like non-tritiated water in the subsurface, and therefore tritiated water will travel at the same velocity as the average groundwater velocity.

Tritium has a half-life of approximately 12.3 years. It decays spontaneously to helium-3 (^3He). This radioactive decay releases a beta particle (low-energy electron). The radioactivity of tritium is the source of the risk of exposure.

Tritium is one of the least dangerous radionuclides because it emits very weak radiation and leaves the body relatively quickly. Since tritium is almost always found as water, it goes directly into soft tissues and organs. The associated dose to these tissues is generally uniform and is dependent on the water content of the specific tissue.

6.3.2 DISTRIBUTION IN STATION GROUNDWATER

This section provides an overview of the lateral and vertical distribution of tritium detected in groundwater at the Station. Tritium was detected in groundwater at concentrations greater than the LLD of 200 pCi/L in both the shallow and intermediate groundwater zones.

Hydrogeologic profiles were created across the Station at locations shown on Figure 5.1. Hydrogeologic profiles of the tritium concentrations in groundwater are presented on Figures 6.1, 6.2, and 6.3. The following discussion presents the distribution of tritium concentrations in Station groundwater with respect to the location of a particular AFE.

The distribution of tritium in the shallow groundwater zone is shown on Figure 5.6, and the distribution of tritium in the intermediate groundwater zone is shown on Figure 5.7. As shown in Figures 5.6 and 5.7, there appear to be two primary sources of tritium beneath the Station. One is from the HPCI Piping leaks and the other is from the Unit 1 Fuel Pool overflow. The remainder of this section provides further details on the distribution of the tritium related to the four AFEs.

AFE-Dresden-1: CST System HPCI Piping Leak

The most frequent detections of tritium in the shallow and intermediate groundwater zones were identified near the Units 2/3 Turbine Building on its south, east and west sides. As demonstrated in the following paragraphs, the source of the tritium in this area is historical tritium releases from the CST System HPCI Piping.

The highest concentrations of tritium in the shallow groundwater zone were detected within the area surrounding CST System HPCI Piping at monitoring wells MW-DN-102S ($4,250 \pm 475$ pCi/L), MW-DN-114S ($2,770 \pm 336$ pCi/L), and MW-DN-107S ($1,040 \pm 165$ pCi/L). MW-DN-102S is located approximately 600 feet southwest of CST System HPCI Piping. MW-DN-114S is located approximately 450 feet northeast of CST System HPCI Piping. MW-DN-107S is located approximately 300 feet northeast of CST System HPCI Piping.

Groundwater flows radially outward beneath the PA. Near the CST System HPCI Piping, the flow is to the northwest, west and south-southwest with minimal flow also to the northeast. Tritium detected in groundwater follows this flow path as it moves from the HPCI Piping around the buildings to the northwest (Figure 5.4). Tritium was also detected at concentrations greater than the LLD of 200 pCi/L in groundwater samples collected from monitoring wells MW-DN-111S (638 ± 140 pCi/L) and MW-109S (251 ± 120 pCi/L), located to the west-northwest, hydraulically downgradient of CST System HPCI Piping. In addition, tritium was also detected greater than the LLD of 200 pCi/L in groundwater samples collected from MW-DN-113S (451 ± 136 pCi/L), located to the south of the CST System HPCI Piping. Although MW-DN-113S is not presently downgradient of AFE-Dresden-1, seasonal fluctuations in groundwater elevations could result in this well being downgradient to the AFE.

Within the intermediate groundwater zone, tritium was detected in groundwater samples from monitoring wells DSP-125 (320 ± 127 pCi/L), MW-DN-102I ($1,380 \pm 195$ pCi/L), DSP-124 ($10,000 \pm 284$ pCi/L), MW-DN-109I ($3,620 \pm 413/3,750 \pm 424$ pCi/L), MW-DN-112I ($1,520 \pm 214$ pCi/L), and MW-DN-110I (516 ± 134 pCi/L), within the area surrounding CST System HPCI Piping for Units 2/3. DSP-125 is located approximately 100 feet east of the area of the release at the CST System HPCI Piping for Units 2/3. MW-DN-102I is located approximately 600 feet southwest of the CST System HPCI Piping. DSP-124, MW-DN-109I, MW-DN-112I, and MW-DN-110I are all located to the northwest and are located hydraulically downgradient of the release at the CST System HPCI Piping. These tritium levels demonstrate declining ($10,000 \pm 284$ pCi/L to 516 ± 134 pCi/L) concentrations with increased distance from the CST System Piping.

Groundwater flow in and around the Units 2/3 Turbine Building is radially outward from the center of the PA as depicted for the shallow and intermediate groundwater zones on Figures 5.4 and 5.5. This flow pattern provides a potential explanation for the detection of tritium greater than the LLD of 200 pCi/L in the groundwater samples from monitoring wells MW-DN-102S and MW-DN-102I, which are located southwest of the CST. Groundwater containing tritium that has originated in the area of the HPCI Piping for Units 2/3 also migrates to the northeast underneath the Unit 1 Turbine Building within the intermediate zone of the water table aquifer.

AFE-Dresden-2: Unit 1 Spent Fuel Pool

Groundwater flow within the shallow groundwater zone in the area of the Unit 1 Spent Fuel Pool is consistent with the general flow direction across the Station. However, there is a slight deflection of groundwater flow east of the Unit 1 Turbine Building due

to the influence of the structure at that location. The closest shallow monitoring well to the Unit 1 Spent Fuel Pool is MW-DN-118S. The groundwater sample from this well contained tritium at a concentration of $1,650 \pm 227$ pCi/L while the sample from MW-DN-105S, located upgradient of the Unit 1 Spent Fuel Pool, did not contain tritium at concentrations greater than the LLD of 200 pCi/L. MW-DN-101S is located to the north of the Unit 1 Spent Fuel Pool along the banks of the Unit 1 Intake Canal. The groundwater sample from MW-DN-101S had a tritium concentration of 220 ± 114 pCi/L, only slightly greater than the LLD of 200 pCi/L.

The highest concentration of tritium in the intermediate groundwater zone across the Station was detected in a groundwater sample from DSP-123 ($13,100 \pm 318/13,200 \pm 319$ pCi/L), which is directly north of the Unit 1 Spent Fuel Pool and also to the north of the Unit 1 Sphere, but along the groundwater flow path originating south of the Turbine Building. MW-DN-119I ($1,470 \pm 211$ pCi/L) is also located along the flow path originating from the Fuel Pool. DSP-105, DSP-106, DSP-107, and DSP-108 are located to the south and east of the Unit 1 Turbine Building and Sphere. Within the intermediate groundwater zone tritium was detected in groundwater samples from monitoring wells DSP-105 (319 ± 117 pCi/L), DSP-106 ($2,370 \pm 289$ pCi/L), DSP-107 ($9,820 \pm 1,030$ pCi/L), DSP-108 ($1,930 \pm 244$ pCi/L), DSP-123 ($13,200 \pm 319$ pCi/L), and MW-DN-101I ($4,570 \pm 208$ pCi/L).

Tritium detected in the groundwater samples from shallow and intermediate monitoring wells in this area is primarily the result of the Unit 1 Spent Fuel Pool historical release.

AFE-Dresden-3: Radwaste Discharge Piping for Units 2/3

There are six wells that are used to evaluate the water quality near this AFE. Groundwater samples from three of these wells contained less than detectable concentrations of tritium. The other three monitoring wells had tritium concentrations ranging from 356 to 1,440 pCi/L.

The groundwater quality downgradient of Radwaste Discharge lines for Units 2/3 is characterized by the analysis of groundwater samples from MW-DN-104S, installed along the Radwaste Discharge Lines for Units 2/3. MW-DN-104S is hydraulically downgradient of the Radwaste Surge Tank and the point at which the discharge piping penetrates the structure. The groundwater sample from this well did not contain tritium at a concentration greater than the LLD of 200 pCi/L. Groundwater flow near the Radwaste Discharge Lines for Units 2/3 is to the north-northeast, consistent with the general groundwater flow direction in the shallow groundwater zone at the Station.

Within the intermediate groundwater zone, tritium was detected in groundwater samples from monitoring wells DSP-122 ($1,440 \pm 139$ pCi/L), DSP-149R ($668 \pm 144/694 \pm 143$ pCi/L), and DSP-148 (356 ± 111 pCi/L). These wells are located near the Radwaste Discharge Piping and downgradient of the 77,000-gallon Radwaste Surge Tank where historical releases have been identified.

The low concentrations of tritium detected in the shallow and intermediate monitoring wells discussed above is likely associated with historical releases from the Radwaste Discharge Piping for Units 2/3, influence from the canal, or both.

AFE-Dresden-4: Piping from CST System and Storm Drain to Unit 1 Intake Canal

The footprint of AFE-Dresden-4 includes the area occupied by the CST System piping and the storm drains that discharge to the Unit 1 Intake Canal. The shallow wells, MW-DN-105S, MW-DN-101S, MW-DN-115S, MW-DN-118S, are located in close proximity to the East Drainage Basin storm drain that discharges to the Unit 1 Intake Canal. The groundwater sample from MW-DN-101S contained tritium at a concentration slightly greater than the LLD of 200 pCi/L (220 ± 114 pCi/L) while the upgradient location of MW-DN-118S had tritium detected at $1,650 \pm 227$ pCi/L. The groundwater samples from MW-DN-105S and MW-DN-115S were non-detect for tritium at the LLD of 200 pCi/L. In the shallow groundwater zone, two shallow wells, MW-DN-107S and MW-DN-114S, are located near the CST System HPCI Piping leak and had tritium concentrations in groundwater samples of $1,040 \pm 165$ pCi/L and $2,770 \pm 336$ pCi/L, respectively. Groundwater flow within the area surrounding the CST System HPCI Piping and Storm Drain to Unit 1 Intake Canal is also locally to the north-northeast, consistent with the general radial flow direction at the Station and with the flow moving around the buildings.

Within the intermediate groundwater zone, tritium was detected in groundwater samples from monitoring wells DSP-125 (320 ± 127 pCi/L), DSP-105 (319 ± 117 pCi/L), DSP-106 ($2,370 \pm 289$ pCi/L), DSP-107 ($9,820 \pm 1,030$ pCi/L), DSP-108 ($1,930 \pm 244$ pCi/L), MW-DN-101I ($4,570 \pm 208$ pCi/L), MW-DN-114I ($4,190 \pm 473$ pCi/L), and MW-DN-119I ($1,470 \pm 211$ pCi/L). DSP-105, DSP-106, DSP-107, DSP-108, and MW-DN-119I are all located in close proximity to the storm drain servicing the Unit 1 Intake Canal. The detections of tritium in these wells may be the result of a combination of releases from AFE-Dresden-1 and AFE-Dresden-4.

Most of the storm drainage system adjacent to the Turbine Buildings is constructed below the water table. Portions of the storm drainage system lie below the water table

by as much as 3 feet. As such, infiltration of groundwater into the storm drainage system that extends from AFE-Dresden-1 to AFE-Dresden-4 is contributing to the movement of tritiated water along southern, eastern and western sides of the Turbine Buildings. This is consistent with groundwater movement in this area. Therefore, the majority of the groundwater that enters the storm drains or surrounding fill would eventually discharge into the Canal System.

The Station currently performs weekly monitoring of two manhole locations that are located upstream from the discharge points for the East Drainage Basin and the West Drainage Basin. Manhole DSP-131 is the final manhole on the West Drainage Basin system prior to discharge into the Unit 2&3 Discharge Canal. The August 2006 tritium concentration at DSP-131 was 600 pCi/L. Manhole DSP-132 is the final manhole on the East Drainage Basin system prior to discharge into the Unit 1 Intake Canal. The August 2006 tritium concentration at DSP-132 was 700 pCi/L.

6.3.3 DISTRIBUTION IN STATION SURFACE WATER

Tritium was not detected in the six surface water samples at concentrations greater than the LLD of 200 pCi/L. The surface water sample locations are shown on Figure 4.1.

6.3.4 CONCEPTUAL MODEL OF TRITIUM RELEASE AND MIGRATION

This section presents CRA's conceptual model of groundwater and tritium migration at the Station.

Hydrogeologic Framework

Based upon existing Station data from boring logs and water level data, the groundwater flow in the water table aquifer is expected to move under conditions equivalent to porous media flow. The sandstone and the limestone bedrock have characteristics that are equivalent to a porous medium at the scale of this investigation. Therefore, discussions of groundwater flow within the shallow and intermediate zones of the water table aquifer are assumed to be under porous media conditions.

Groundwater flow within the water table aquifer at the Station generally moves from southwest to the northeast to the regional discharge points in the Kankakee and Illinois Rivers. Structures and operations at the Station have modified the flow within the water

table aquifer before it reaches the river systems. The canals act like partially penetrating streams, and may receive water from or discharge water to the groundwater system.

The locations of the canals and the rivers with respect to the Station result in radial groundwater flow from the center of the PA. The potentiometric surface represented on Figures 5.4 and 5.5 demonstrate the multiple groundwater discharge locations and the resultant radial pattern to those locations.

Building foundations and fill also influence groundwater flow by redirecting groundwater flow. For example, as groundwater flows toward the rivers and canals, it encounters the basements and backfill around the Turbine Buildings and other buildings.

The operation of the intake structure near the north side of the Units 2/3 Turbine Building appears to have some localized influence on groundwater flow as is evident by the potentiometric surface shown on Figure 5.4. This figure suggests that the pumping of water into this structure creates a capture zone of groundwater.

Groundwater flow at the Station is limited in the vertical direction by the presence of the Maquoketa Shale. The hydrogeologic profiles presented on Figures 6.1 to 6.3 demonstrate that tritium has not migrated deeper than the base of the Divine Limestone/top of the Maquoketa Shale.

The following presents the tritiated water migration pathways:

- Historic data shows that tritiated water has entered the Station Canal System via the Intake Canal from the Kankakee River.
- Tritiated groundwater flows beneath and around the structures and enters the Canal System via the Intake Canal at the intake structure.
- Surface water in the Canal System can migrate both vertically and laterally into groundwater.
- Tritiated groundwater appears to infiltrate into storm drains, which are submerged below the water table, and enter the Canal System when the storm drains discharge to the Canal System, including the Intake Canal.
- Tritiated Kankakee River water in the canal systems can discharge to groundwater, under certain conditions, and then migrate back toward Kankakee River and some residential wells.

6.4 STRONTIUM

6.4.1 GENERAL CHARACTERISTICS

Elemental strontium occurs naturally in the earth's mantle as a mixture of four stable isotopes (strontium-88, strontium-86, strontium-87, and strontium-84), and is present everywhere in very dilute concentrations. It is very similar to calcium in its environmental and physiological behavior. All four isotopes behave the same chemically, so any combination of the four would have the same chemical effect on the body.

The radioactive isotopes of strontium do not occur naturally but are produced as a by-product of nuclear fission of uranium-235, uranium-238, or plutonium-239. The most significant isotopes are strontium-90 (half-life of 29 years), strontium-89 (half-life of 51 days), and strontium-85 (half-life of 65 days), which decay by the emission of beta particles. Strontium-90 releases beta particles and decays into yttrium-90. Yttrium-90 decays to the stable isotope zirconium-90.

The Agency for Toxic Substances and Disease Registry (ATSDR) provides a toxicological profile for strontium (ATSDR, 2004). According to this profile, strontium behaves similar to calcium and is absorbed by the body and deposited in bone and blood-forming tissue (bone marrow) when food and water products containing trace amounts are ingested. Strontium-90 has a relatively long half-life of 29 years. The most serious effects of oral exposure to absorbed radioactive strontium are necrotic lesions and cancers of bone and the adjacent tissues. High-level acute exposures can destroy bone marrow, leading to acute radiation syndrome. At lower doses, irradiation of bone marrow may lead to chronic suppression of immune functions.

6.4.2 DISTRIBUTION IN STATION GROUNDWATER

This section provides an overview of the lateral and vertical distribution of strontium-90 detected in groundwater at the Station. Strontium-90 was detected in groundwater at concentrations exceeding the LLD of 2 pCi/L in the intermediate groundwater zone.

Since strontium-90 was detected at only one groundwater monitoring location (well MW-DN-108I), the following discussion presents the distribution of strontium-90 concentrations in Station groundwater with respect to monitoring well MW-DN-108I.

Groundwater Monitoring Well MW-DN-108I

Strontium-89/90 was detected in one monitoring well (MW-DN-108I) at a concentration greater than the LLD of 2.0 pCi/L. In August 2006, a sample was collected from this well, and strontium-89/90 was detected at a concentration of 2.72 ± 1.01 pCi/L. This sample was further analyzed for strontium-90, which was detected at a concentration of 2.17 ± 0.783 pCi/L. Furthermore, a duplicate of this sample was analyzed for total strontium and strontium-90. Since the strontium-90 results exceeded the sum of the total strontium in the duplicate sample, it has been concluded that the results of this sample are invalid.

In May 2006, a sample was collected from this monitoring well (MW-DN-108I). Analyses in July 2006 detected strontium-89/90 at a concentration of 4.42 ± 1.23 pCi/L. In July 2006, this sample was further analyzed for strontium-90, which was detected at a concentration of 4.37 ± 0.66 pCi/L. In July 2006, the sample was re-analyzed and strontium-89/90 was detected at a concentration of 3.39 ± 0.774 pCi/L. In July 2006, this sample was further analyzed for strontium-90, which was detected at a concentration of 2.72 ± 1.29 pCi/L. Because the total strontium from these two samples varied by almost 40 percent and the margin of error was nearly 50 percent, it became necessary to run a third analysis to verify what, if any, detectable concentration existed. This could not be completed for the May 2006 samples due to the samples becoming contaminated at the analytical laboratory. Normal protocol for an anomalous positive result is to perform a confirmatory sampling and analysis of the respective well. Consequently, the well MW-DN-108I was re-sampled in August 2006, as discussed above.

This well is located in the vicinity of the Unit 1 Off-Gas Hold-up Piping to the Unit 1 Off-Gas Suppression System. In November 1975, a ditch which had been dug to connect piping between the Unit 1 Off-Gas Hold-up Piping and the newly constructed Unit 1 Off-Gas Suppression System, began to fill with rainwater which flowed along the ditch towards the Unit 1 Circulating Water Intake Canal. The off-gas pipe was breached at the time allowing contaminants from inside the pipe to be flushed out into the ditch (surrounding soil). This release is the likely source of the strontium-89/90 detected in groundwater samples collected from well MW-DN-108I.

Since strontium-89/90 was not detected at concentrations above the LLD of 2.0 pCi/L in groundwater samples from any of the other groundwater monitoring wells throughout the Station property and adjacent to well MW-DN-108I, it is assumed that the detection of strontium-89/90 is localized to this area.

6.4.3 DISTRIBUTION IN STATION SURFACE WATER

Strontium was not detected in the six surface water samples at concentrations greater than the LLD of 2.0 pCi/L.

7.0 EXPOSURE PATHWAY ASSESSMENT

This section addresses the groundwater impacts from tritium at the Station and potential risks to human health and the environment.

Based upon historical knowledge and data related to the Station operations, and based upon radionuclide analyses of groundwater samples and the isolated detection of strontium-90 in the groundwater sample from MW-DN-108I, the primary constituent of concern (COC) is tritium. The discussions that follow are restricted to the exposure pathways related to tritium.

Teledyne Brown reports all samples to their statistically derived minimum detectable concentrations (MDC) approximately 150 to 170 pCi/L, which is associated with 95 percent confidence interval on their hard-copy reports. However, the laboratory uses a 99 percent confidence range (± 3 -sigma) for determining whether to report the sample activity concentration as detected or not. This 3-sigma confidence typically equates to 150 (± 135.75) pCi/L.

Exelon has specified a LLD of 200 pCi/L for the Fleetwide Assessment. Exelon has also required the laboratory to report related peaks identified at the 95 percent confidence level (2-sigma).

This HIR, therefore, screens and assesses data using Exelon's LLD of 200 pCi/L. As is outlined below, this concentration is also a reasonable approximation of the background concentration of tritium in groundwater at the Station.

7.1 HEALTH EFFECTS OF TRITIUM

Tritium is a radionuclide that decays by emitting a low-energy beta particle that cannot penetrate deeply into tissue or travel far in air. A person's exposure to tritium is primarily through the ingestion of water (drinking water) or through ingestion of water bearing food products. Inhalation of tritium requires the water to be in a vapor form (i.e., through evaporation or vaporization due to heating). Inhalation is a minor exposure route when compared to direct ingestion or drinking of tritiated water. Absorption of tritium through skin is possible, but tritium exposure is more limited here versus direct ingestion or drinking of tritiated water.

7.2 BACKGROUND CONCENTRATIONS OF TRITIUM

The purpose of the following paragraphs is to establish a background concentration through review of various media.

7.2.1 GROUNDWATER

Tritium is created in the environment from naturally occurring processes both cosmic and subterranean, as well as from anthropogenic (i.e., man-made) sources. In the upper atmosphere, "cosmogenic" tritium is produced from the bombardment of stable nuclides and combines with oxygen to form tritiated water, which will then enter the hydrologic cycle. Below ground, "lithogenic" tritium is produced by the bombardment of natural lithium isotopes ${}^6\text{Li}$ (92.5% abundance) and ${}^7\text{Li}$ (7.5% abundance) present in crystalline rocks by neutrons produced by the radioactive decay of uranium and thorium. Lithogenic production of tritium is usually negligible compared to other sources due to the limited abundance of lithium in rock. The lithogenic tritium is introduced directly to groundwater.

A major anthropogenic source of tritium comes from the former atmospheric testing of thermonuclear weapons. Levels of tritium in precipitation increased during the 1950s and early 1960s, coinciding with the release of significant amounts of tritium to the atmosphere during nuclear weapons testing prior to the signing of the Limited Test Ban Treaty in 1963, which prohibited atmospheric nuclear tests.

7.2.2 PRECIPITATION DATA

Precipitation samples are routinely collected at stations around the world for the analysis of tritium and other radionuclides. Two publicly available databases that provide tritium concentrations in precipitation are Global Network of Isotopes in Precipitation (GNIP) and USEPA's RadNet database. GNIP provides tritium precipitation concentration data for samples collected world wide from 1960 to 2006. RadNet provides tritium precipitation concentration data for samples collected at Stations through the U.S. from 1960 up to and including 2006.

Based on GNIP data for sample stations located in the U.S. Midwest including Chicago, St. Louis and Madison, Wisconsin, as well as Ottawa Ontario, and data from the University of Chicago, tritium concentrations peaked around 1963. This peak, which approached 10,000 pCi/L for some stations, coincided with the atmospheric testing of

thermonuclear weapons. Tritium concentrations showed a sharp decline up until 1975 followed by a gradual decline since that time. Tritium concentrations in Midwest precipitation have typically been below 100 pCi/L since around 1980.

The RadNet database for several stations in the U.S. Midwest (Chicago, Columbus, Indianapolis, Lansing, Madison, Minneapolis, Painesville, Toledo, and Welsch, MN) did not show the same trend, which can be attributed to pre-1995 data handling procedures. The pre-1995 data were rounded to the nearest 100 pCi/L, which dampened out variances in the data. The post-1995 RadNet data, where rounding was not applied, exhibit much more scatter, and similar to the GNIP data, the vast majority of the data were less than 100 pCi/L.

CRA constructed a non-parametric upper tolerance limit with a confidence of 95 percent and a coverage of 95 percent based on RadNet data for USEPA Region 5 from 2004 to 2005. The resulting upper tolerance limit is 133 pCi/L, which indicates that CRA is 95 percent confident that 95 percent of the ambient precipitation concentration results are below 133 pCi/L. The statistical confidence, however, must be compared with the limitations of the underlying RadNet data, which does not include the minimum detectable concentration for a majority of the measurements. Some of the RadNet values below 200 pCi/L may be approximated. Nevertheless, these results show a background contribution for precipitation of up to 133 pCi/L.

7.2.3 SURFACE WATER DATA

Tritium concentrations are routinely measured in large surface water bodies, including Lake Michigan and the Mississippi River. Surface water data from the RadNet database for Illinois sampling stations include East Moline (Mississippi River), Moline (Mississippi River), Marseilles (Illinois River), Morris (Illinois River), Oregon (Rock River), and Zion (Lake Michigan). As is the case for the RadNet precipitation data, the pre-September 1995 Illinois surface water data was rounded to the nearest 100 pCi/L, creating a dampening of variances in the data. The post-1995 Illinois surface water data, similar to the post-1995 Midwest precipitation data, were less than 100 pCi/L with the exception of the Moline (Mississippi River) station. Tritium surface water concentrations at this location varied between 100 and 800 pCi/L, which may reflect local natural or anthropogenic inputs.

The USEPA RadNet surface water data typically has a reported 'Combined Standard Uncertainty' of 35 to 50 pCi/L. According to USEPA, this corresponds to a ± 70 to 100 pCi/L 95 percent confidence bound on each given measurement. Therefore,

the typical background data provided may be subject to measurement uncertainty of approximately ± 70 to 100 pCi/L.

As part of the REMP, tritium concentrations are measured in the Kankakee, Des Plaines and Illinois Rivers as well as within the canal network at the Station.

Surface water samples are collected as part of REMP at a total of three locations. Samples are collected at two locations upstream of the Station on the Kankakee (D-54) and Des Plaines (D-52) Rivers, and at one location downstream of the Station on the Illinois River (D-51). The concentration of tritium within the Kankakee River (D-54) was not greater than the LLD of 200 pCi/L since 2003 but increased to 720 pCi/L in 2005 and is attributable to an upstream source. The concentration of tritium within the Des Plaines River (D-52) has not been greater than the LLD of 200 pCi/L since 2000 except for one sample at 230 pCi/L in 2003. The concentration of tritium within the Illinois River (D-51) has fluctuated from less than the LLD of 200 pCi/L since 2000 to a maximum concentration of 1,974 pCi/L in 2002.

Since January 2005, the concentration of tritium in the Station intake has ranged from the LLD of 200 pCi/L to greater than 2,500 pCi/L. In addition, available data indicates that upstream background concentrations in the Kankakee River have ranged from LLD of 200 pCi/L to greater than 6,900 pCi/L (RETEC, 2004). The intake canal sample is a direct representation of tritium concentrations in the Kankakee River.

7.2.4 DRINKING WATER DATA

Tritium concentrations in drinking water from the RadNet database for three Illinois sampling stations (Chicago, Morris, and East Chicago) exhibit similar trends to the precipitation and surface water data. As with the precipitation and surface water data, the pre-1995 data has dampened out variances due to rounding the data to the nearest 100 pCi/L. The post-1995 results show tritium concentrations in samples of drinking water were less than 100 pCi/L and less than the tritium concentrations found in precipitation and surface water.

A residential well, designated RW-1, has been sampled for tritium for over 10 years as part of the Offsite Dose Calculation Manual (ODCM) and is located approximately 0.7 miles south of the plant. Prior to 1995, the groundwater samples from this well consistently contained tritium concentrations less than 300 pCi/L. From 1995 to April 2005, tritium concentrations increased from 232 to 940 pCi/L.

Based on the tritium found in RW-1, in December 2004, Exelon sampled 34 additional residential wells in the same neighborhood. Tritium was detected in groundwater samples from three of the 34 residential wells, designated RW-2, RW-3, and RW-4. These wells are all located beside the Kankakee River to the south of the Station. The locations of these wells are shown on Figure B.1 in Appendix B.

A groundwater sample was collected from the RW-2 well on December 2, 2004, and the sample was split for analysis by two independent laboratories. Due to the discrepancy in the results (366 pCi/L versus 114 pCi/L), another sample was collected on January 13, 2005, and four aliquots were reported ranging in concentration from 360 to 480 pCi/L. Another sample was collected on April 15, 2005, and the reported tritium concentration was 542 pCi/L.

Groundwater samples were collected from the RW-3 well on September 21, 2005 with a concentration of 369 pCi/L and the RW-4 well on August 29, 2005 with a concentration of 468 pCi/L.

A water sample collected from the RW-1 well on April 15, 2005 contained tritium at a concentration of 653 pCi/L. A sample collected from the RW-2 well on the same date contained 542 pCi/L of tritium.

Based on the results of this investigation, the low tritium concentration impact observed in the residential wells to the south of the Station is principally, if not entirely, due to the discharge of tritiated Kankakee River water to groundwater. In addition, the HIR data demonstrate that there is no measurable tritium impact in the canal network from current groundwater migration to the canal network in the vicinity of the PA.

7.2.5 EXPECTED TRITIUM BACKGROUND FOR THE STATION

As reported in the GNIP and RadNet databases, tritium concentrations in U.S. Midwest precipitation has typically been less than 100 pCi/L since 1980. Tritium concentrations reported in the RadNet database for Illinois surface water and groundwater, at least since 1995, has typically been less than 100 pCi/L. Based on the USEPA Region 5 2004 to 2005 RadNet precipitation data, 95 percent of the ambient concentrations of tritiated water in Illinois are expected to be less than 133 pCi/L, based on a 95 percent confidence limit. Tritium concentrations in surface water and drinking water are expected to be comparable or less based on historical data and trends.

Concentrations in groundwater, similar to surface and drinking water, are expected to be less than precipitation values. The lower groundwater concentrations are related to the age of the groundwater as compared to the half-life of tritium. Deep aquifers in proximity to crystalline basement rock, however, can potentially show elevated concentrations of tritium due to lithogenic sources.

As was noted in Section 7.0, the analytical laboratory is reporting tritium results to a LLD of 200 pCi/L. This concentration also provides a reasonable representation of background groundwater quality, given the data for precipitation, surface water, and drinking water.

Based on the evaluation presented above, the background concentration for tritium at the Station is reasonably represented by the LLD of 200 pCi/L.

7.3 IDENTIFICATION OF POTENTIAL EXPOSURE PATHWAYS AND POTENTIAL RECEPTORS

Four potential exposure pathways were identified and considered during the evaluation of tritium in groundwater.

- potential groundwater migration to drinking water users on the Station property;
- potential groundwater migration off the Station property to private and public groundwater users;
- potential groundwater migration off the Station property to a surface water body; and
- potential surface water migration to groundwater off the Station property.

The following section provides an overview these four potential exposure pathways for tritium in groundwater.

7.3.1 POTENTIAL GROUNDWATER MIGRATION TO DRINKING WATER USERS AT THE STATION PROPERTY

At the Station, the tritium detected in groundwater samples has been isolated to the water table aquifer, which is isolated from the deeper regional groundwater aquifer by the Maquoketa Shale. Groundwater quality data from the Station's potable wells that are completed below this aquitard do not contain concentrations of tritium greater than the LLD of 200 pCi/L. As such, the tritium impact is limited to the water table aquifer.

There are no water supply wells located on the Station property that draw water from the water table aquifer.

There is no complete exposure pathway. Therefore, there is no current risk of exposure associated with groundwater ingestion at the Station.

7.3.2 POTENTIAL GROUNDWATER MIGRATION TO DRINKING WATER USERS OFF THE STATION PROPERTY

The concentrations of tritium in groundwater are less than the USEPA drinking water standard of 20,000 pCi/L. Consequently, there is currently no tritium in the groundwater that could migrate off the Station at concentrations exceeding the USEPA drinking water standard.

There are private water supply wells located on land to the south of the Station. Based on groundwater flow maps, it is unlikely that tritiated groundwater beneath the Station could migrate to the south in the intermediate flow system and onto the private property.

Although there is a potentially complete exposure pathway, there is no current risk of exposure associated with this pathway.

7.3.3 POTENTIAL GROUNDWATER MIGRATION TO SURFACE WATER USERS OFF THE STATION PROPERTY

Groundwater at the Station discharges to Kankakee and Illinois Rivers or through the Discharge Canal. Therefore, there is a potentially complete exposure route to recreational users of surface water including boating, fishing, and swimming.

Tritium results for surface water samples collected as part of this investigation were less than the LLD of 200 pCi/L. In addition, based on the results of this investigation, the Station is not causing any off-Station concentrations of tritium above detectable limits.

Although there is a potentially complete exposure pathway, there is no current risk of exposure associated with groundwater migration to surface water users off the Station property.

7.3.4 POTENTIAL SURFACE WATER MIGRATION TO GROUNDWATER AND SURFACE WATER OFF THE STATION PROPERTY

Surface water within the Canal System could potentially migrate from the Canal System to groundwater off the Station property. Tritium results for surface water samples collected as part of this investigation were less than the LLD of 200 pCi/L.

As discussed in Section 7.2.4, private wells south of the Station were sampled to evaluate potential impact of the Station's operations on groundwater. The Canal System historically contained elevated tritium concentrations as high as approximately 6,900 pCi/L due to upgradient sources in the Kankakee River. Therefore, as discussed above, the source of these low concentrations in the off-Station wells is principally, if not entirely, due to the discharge of tritiated Kankakee River water to groundwater. In addition, the HIR data demonstrate that there is no measurable tritium impact in the canal network from current groundwater migration to the canal network in the vicinity of the PA.

Although there is a potentially complete exposure pathway, there is no current risk of exposure associated with migration of tritium originating from the Station to the Canal System to groundwater off the Station property.

7.4 SUMMARY OF POTENTIAL TRITIUM EXPOSURE PATHWAYS

In summary, there are four potential groundwater exposure pathways for tritium originating at the Station:

- potential groundwater migration to drinking water users on the Station property;
- potential groundwater migration off the Station property to private and public groundwater users;
- potential groundwater migration off the Station property to a surface water body; and
- potential surface water migration to groundwater off the Station property.

Based on the groundwater and surface water data provided and referenced in this investigation, none of the potential receptors are at risk of exposure to concentrations of tritium in excess of USEPA drinking water standard (20,000 pCi/L).

7.5 OTHER RADIONUCLIDES

Strontium-89/90 was detected in one monitoring well (MW-DN-108I) at a concentration greater than the LLD of 2.0 pCi/L. In August 2006, a sample was collected from this well, and strontium-89/90 was detected at a concentration of 2.72 ± 1.01 pCi/L. This sample was further analyzed for strontium-90, which was detected at a concentration of 2.17 ± 0.783 pCi/L. Furthermore, a duplicate of this sample was analyzed for total strontium and strontium-90. Since the strontium-90 results exceeded the sum of the total strontium in the duplicate sample, it has been concluded that the results of this sample are invalid.

In May 2006, a sample was collected from this monitoring well (MW-DN-108I). Analyses in July 2006 detected strontium-89/90 at a concentration of 4.42 ± 1.23 pCi/L. In July 2006, this sample was further analyzed for strontium-90, which was detected at a concentration of 4.37 ± 0.66 pCi/L. In July 2006, the sample was re-analyzed and strontium-89/90 was detected at a concentration of 3.39 ± 0.774 pCi/L. In July 2006, this sample was further analyzed for strontium-90, which was detected at a concentration of 2.72 ± 1.29 pCi/L. Because the total strontium from these two samples varied by almost 40 percent and the margin of error was nearly 50 percent, it became necessary to run a third analysis to verify what, if any, detectable concentration existed. This could not be completed for the May 2006 samples due to the samples becoming contaminated at the analytical laboratory. Normal protocol for an anomalous positive result is to perform a confirmatory sampling and analysis of the respective well. Consequently, the well MW-DN-108I was re-sampled in August 2006, as discussed above.

It is concluded that this detection is localized to the vicinity of MW-DN-108I. On this basis, there is limited discussion of this result in this report.

No target radionuclides were detected in the groundwater and surface water samples at concentrations greater than their respective LLDs. Other non-target radionuclides were also included in the tables but excluded from the discussion in this report. These radionuclides were either a) naturally occurring and thus not produced by the Station, or b) could be definitively evaluated as being naturally occurring due to the lack of presence of other radionuclides which would otherwise indicate the potential of production from the Station.

8.0 CONCLUSIONS

Based on this hydrogeologic investigation, CRA concludes:

Groundwater Flow

- There are two significant underlying water-bearing units, Pottsville Sandstone (shallow groundwater zone) and the Divine Limestone (intermediate groundwater zone), beneath the Station. The two formations comprise the water table aquifer.
- The water table aquifer extends through the entire thickness of these two units and is underlain by the Maquoketa Shale, which acts as an aquitard and is continuous across the Station.
- The depth to groundwater beneath the Station ranges between 3 to 23 feet bgs.
- Groundwater flow is influenced by the canal network and the foundations of buildings such that the shallow and intermediate groundwater flows radially outwards from the center of the PA towards the canals and rivers. The canals also influence the flow of groundwater in the intermediate groundwater zone. The shallow groundwater zone discharges to the canal as does the intermediate groundwater zone but to a lesser degree.
- The horizontal groundwater flow velocity for the shallow groundwater zone ranges from 87 to 355 ft/yr while the intermediate groundwater flow velocity ranges from 17 to 225 ft/yr.
- The Station canals act as an interceptor trench for the shallow groundwater zone while the intermediate zone is partially intercepted by the Station canals. Seasonal changes result in differing degrees of hydraulic communication between the groundwater and the canal system.

Groundwater Quality

- Gamma-emitting radionuclides associated with licensed plant operations were not detected at concentrations greater than their respective LLDs in any of the 68 groundwater samples collected as part of this investigation.
- Strontium-90 was not detected in groundwater at concentrations greater than the USEPA drinking water standard of 8.0 pCi/L.
- Strontium-89/90 was detected in one monitoring well (MW-DN-108I) at a concentration greater than the LLD of 2.0 pCi/L. In August 2006, a sample was collected from this well, and strontium-89/90 was detected at a concentration of 2.72 ± 1.01 pCi/L. This sample was further analyzed for strontium-90, which was

detected at a concentration of 2.17 ± 0.783 pCi/L. Furthermore, a duplicate of this sample was analyzed for total strontium and strontium-90. Since the strontium-90 results exceeded the sum of the total strontium in the duplicate sample, it has been concluded that the results of this sample are invalid.

In May 2006, a sample was collected from this monitoring well (MW-DN-108I). Analyses in July 2006 detected strontium-89/90 at a concentration of 4.42 ± 1.23 pCi/L. In July 2006, this sample was further analyzed for strontium-90, which was detected at a concentration of 4.37 ± 0.66 pCi/L. In July 2006, the sample was re-analyzed and strontium-89/90 was detected at a concentration of 3.39 ± 0.774 pCi/L. In July 2006, this sample was further analyzed for strontium-90, which was detected at a concentration of 2.72 ± 1.29 pCi/L. Because the total strontium from these two samples varied by almost 40 percent and the margin of error was nearly 50 percent, it became necessary to run a third analysis to verify what, if any, detectable concentration existed. This could not be completed for the May 2006 samples due to the samples becoming contaminated at the analytical laboratory. Normal protocol for an anomalous positive result is to perform a confirmatory sampling and analysis of the respective well. Consequently, the well MW-DN-108I was re-sampled in August 2006, as discussed above.

- Tritium was not detected in groundwater at concentrations greater than the USEPA drinking water standard of 20,000 pCi/L.
- Tritium was detected in groundwater samples from nine monitoring wells in the shallow groundwater zone at concentrations ranging from 220 ± 114 pCi/L to $4,250 \pm 475$ pCi/L.
- Tritium was detected in groundwater samples from twenty-one wells in the intermediate groundwater zone at concentrations ranging from 210 ± 124 pCi/L to $13,200 \pm 319$ pCi/L.

Surface Water Quality

- Tritium was not detected at concentrations greater than the LLD of 200 pCi/L in any of the six surface water samples collected as part of this investigation.
- Gamma-emitting radionuclides associated with licensed plant operations were not detected at concentrations greater than their respective LLDs in any of the six surface water samples collected as part of this investigation.
- Strontium-89/90 was not detected at a concentration greater than the LLD of 2.0 pCi/L in any of the six surface water samples collected as part of this investigation.

AFE-Dresden-1: CST System HPCI Piping for Units 2/3

- Gamma-emitting radionuclides associated with licensed plant operations were not detected at concentrations greater than their respective LLDs in any of the groundwater samples obtained from the monitoring wells located in close proximity to the CST System HPCI Piping.
- Strontium-89/90 was not detected at a concentration greater than the LLD of 2.0 pCi/L in any of the groundwater samples obtained from the monitoring wells located in close proximity to the CST System HPCI Piping.
- In the area surrounding the CST System HPCI Piping, tritium was detected in the shallow and intermediate groundwater zones. The groundwater flows with the local hydraulic gradient, to the northwest around the Units 2/3 Turbine Building, and under the Unit 1 Turbine Building.
- There are 12 monitoring wells associated with this AFE. The groundwater samples contained tritium at concentrations ranging from less than the LLD of 200 pCi/L to $10,000 \pm 284$ pCi/L.
- Tritium in groundwater samples collected in the CST System HPCI Piping area is primarily attributable to the historical releases in this area.

AFE-Dresden-2: Unit 1 Spent Fuel Pool

- Gamma-emitting radionuclides associated with licensed plant operations were not detected at concentrations greater than their respective LLDs in any of the groundwater samples collected from the monitoring wells near the fuel pool.
- Strontium-89/90 was not detected at a concentration greater than the LLD of 2.0 pCi/L in any of the groundwater samples obtained from the monitoring wells located in close proximity to this AFE.
- Tritium was detected in the area surrounding the Unit 1 Spent Fuel Pool at concentrations greater than LLD of 200 pCi/L in the groundwater samples from the shallow and intermediate groundwater monitoring wells.
- There are 10 monitoring wells associated with this AFE. The groundwater samples contained tritium at concentrations ranging from less than the LLD of 200 pCi/L to $13,200 \pm 319$ pCi/L.
- Tritium in groundwater samples collected in the area north of the Unit 1 Spent Fuel Pool is likely attributable to the Unit 1 Spent Fuel Pool historical release.

AFE-Dresden-3: Radwaste Discharge Lines for Units 2/3

- Gamma-emitting radionuclides associated with licensed plant operations were not detected at concentrations greater than their respective LLDs in any of the groundwater samples collected from the monitoring wells located in close proximity to Radwaste Discharge Piping for Units 2/3.
- Strontium-89/90 was not detected at a concentration greater than the LLD of 2.0 pCi/L in any of the groundwater samples obtained from the monitoring wells located in close proximity to this AFE.
- Tritium was detected in samples from three of the six monitoring wells near the Radwaste Discharge Piping. The groundwater samples contained tritium at concentrations ranging from less than the LLD of 200 pCi/L to $1,440 \pm 139$ pCi/L.
- Tritium in groundwater samples collected in the area of the Radwaste Discharge Lines for Units 2/3 is primarily attributable to the historical releases in this area.

AFE-Dresden-4: Piping from CST System and Storm Drain to Unit 1 Intake Canal

- Gamma-emitting radionuclides associated with licensed plant operations were not detected at concentrations greater than their respective LLDs in any of the groundwater samples obtained from the monitoring wells located near the storm drain.
- Strontium-89/90 was not detected at a concentration greater than the LLD of 2.0 pCi/L in any of the groundwater samples obtained from the monitoring wells located in close proximity to this AFE.
- Tritium concentrations in samples from monitoring wells near, or hydraulically downgradient, of AFE-Dresden-4 may be impacted by tritium sources from other AFEs.
- There are 12 monitoring wells associated with this AFE. The groundwater samples contained tritium at concentrations ranging in concentration from less than the LLD of 200 pCi/L to $4,570 \pm 208$ pCi/L.
- Groundwater infiltration into the storm drain system is providing a pathway for tritiated groundwater to the Unit 1 Intake Canal.
- The Storm Drain System acts as a conduit for tritiated water rather than a source of tritium.

Potential Receptors

- Based on the results of this investigation² there is no current risk of exposure to radionuclides associated with licensed plant operations through any of the identified potential exposure pathways.

General Conclusions

- Based on the results of this investigation, tritium originating from the Station is not migrating off the Station property at detectable concentrations.
- Based on the results of this investigation, there are no known active releases into the groundwater at the Station.

² Using the LLD specified in this HIR.

9.0 RECOMMENDATIONS

The following presents CRA's recommendations for proposed activities to be completed at the Station.

9.1 FILL DATA GAPS

Based on the results of this hydrogeologic investigation, there are no data gaps remaining to support CRA's conclusions regarding the characterization of the groundwater regime and potential impacts from radionuclides at the Station.

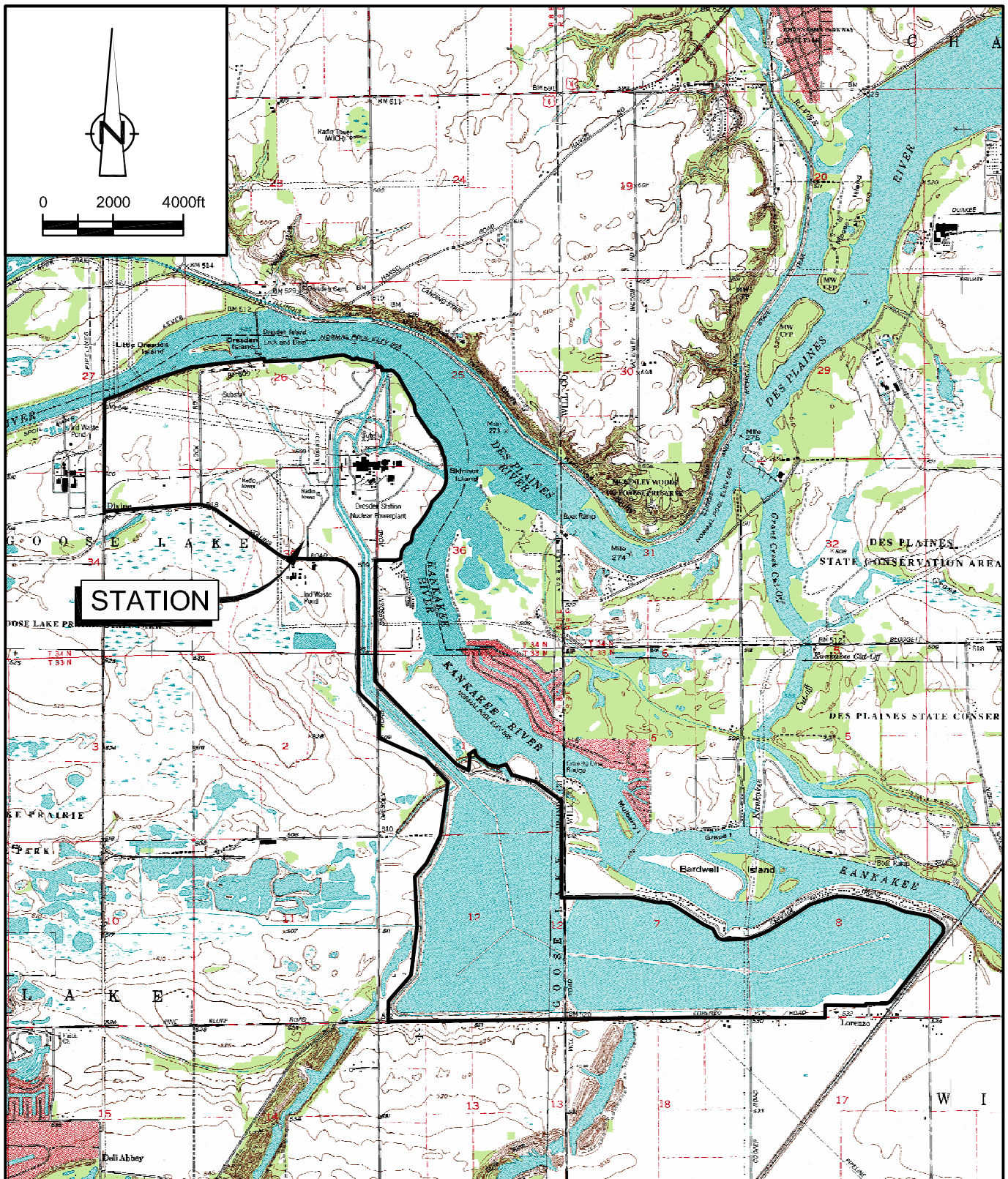
9.2 GROUNDWATER MONITORING

Based on the information collected to date, CRA recommends that Exelon conduct periodic monitoring of selected sample locations.

10.0 REFERENCES

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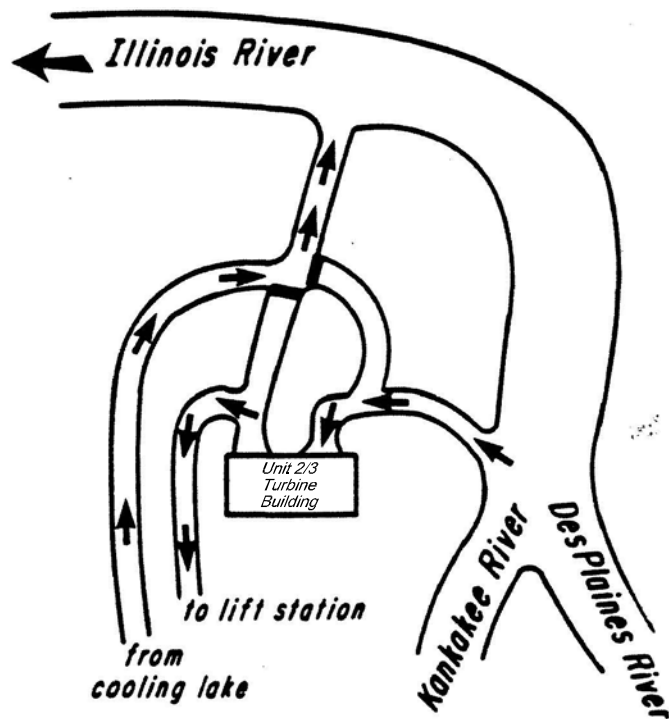
SOURCE: USGS QUADRANGLE MAP;
DRESDEN MOSAIC, ILLINOIS
1986 (EDITED: 1991)

Exelon

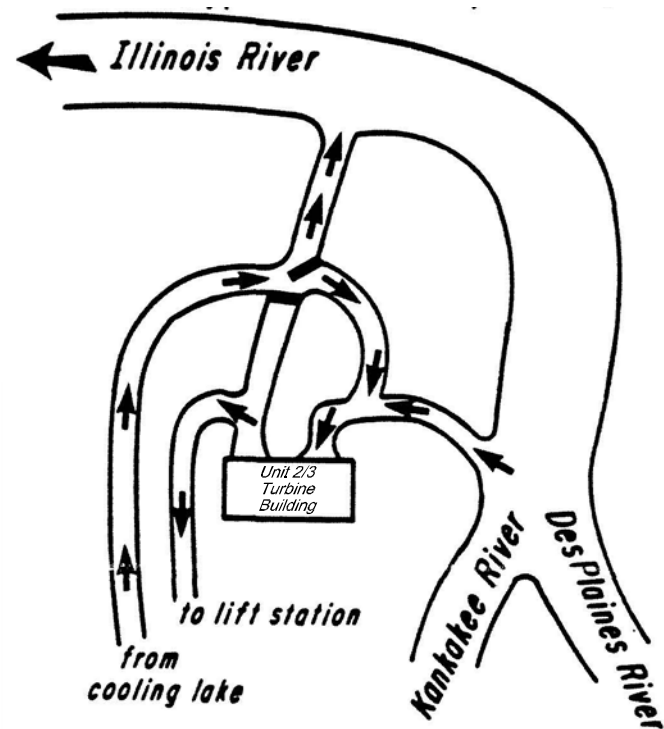


figure 1.1

STATION LOCATION MAP
DRESDEN GENERATING STATION
EXELON GENERATION COMPANY, LLC
Morris, Illinois



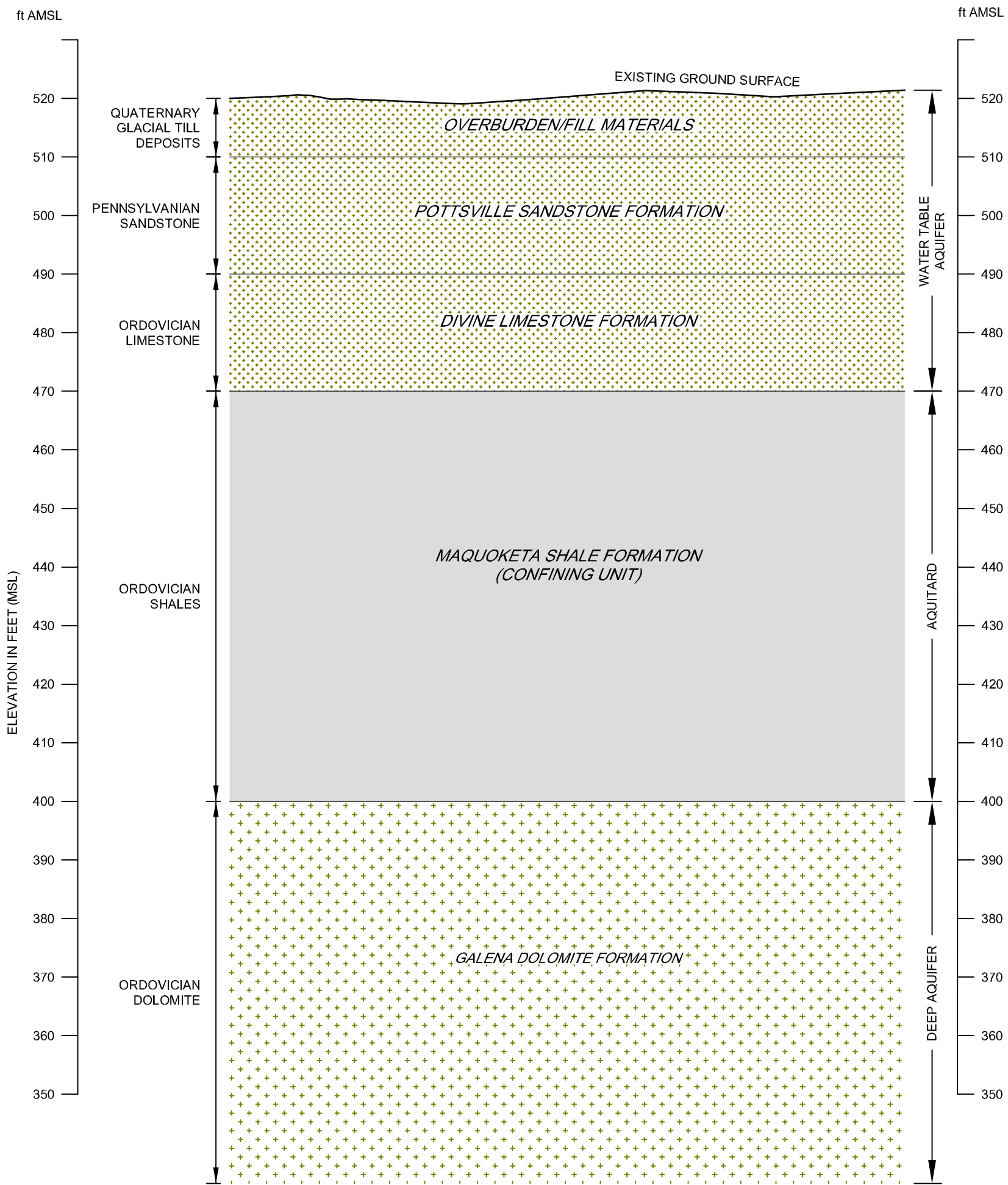
INDIRECT OPEN CYCLE
(TYPICAL SUMMER OPERATION)



CLOSED CYCLE
(TYPICAL WINTER OPERATION)

figure 2.2

COOLING WATER FLOW DIAGRAM
UNITS 2 AND 3
DRESDEN GENERATING STATION
EXELON GENERATION COMPANY, LLC
Morris, Illinois



LEGEND



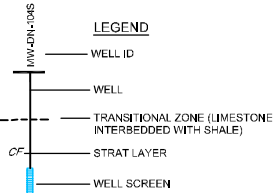
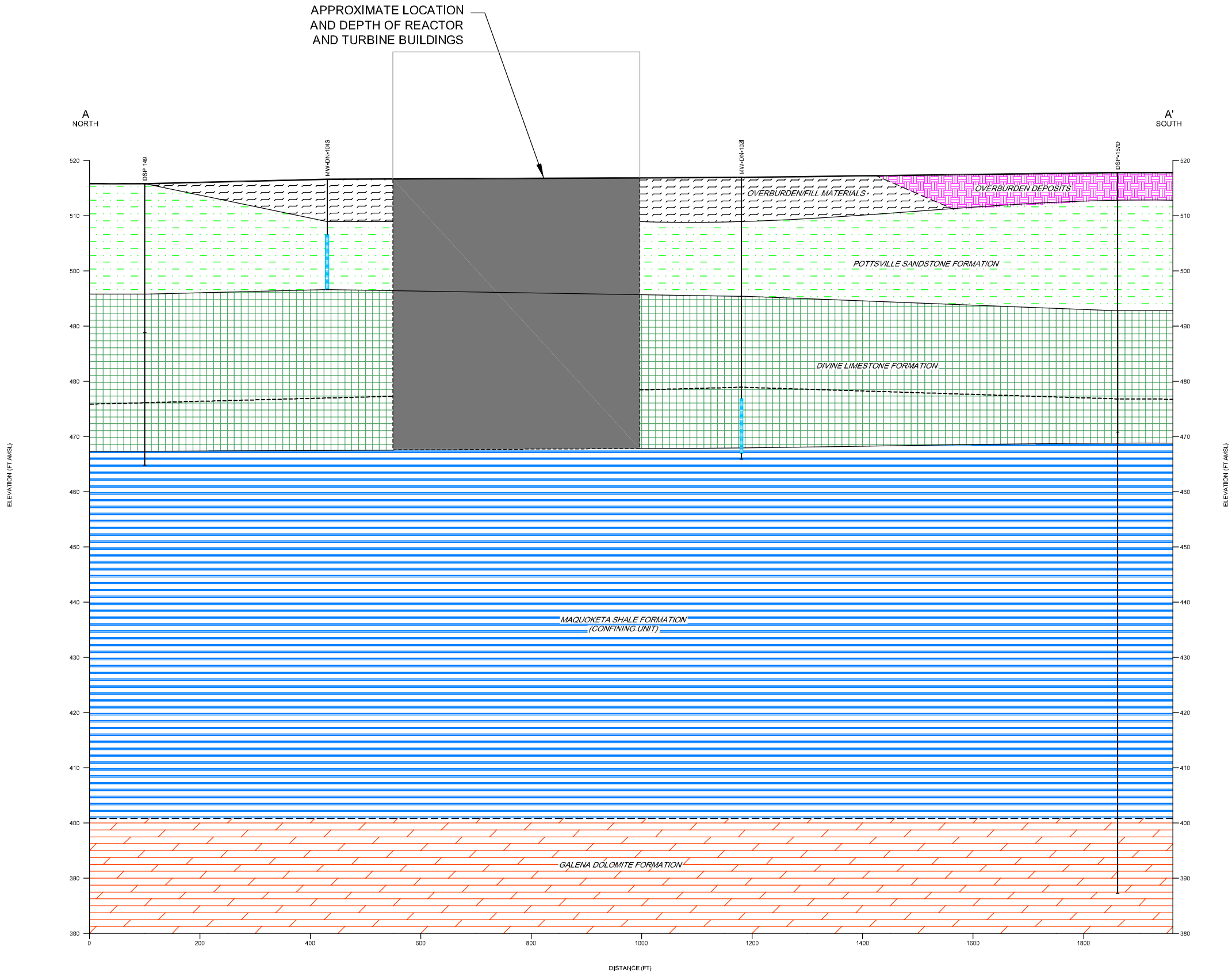
 WATER BEARING UNIT
 AQUITARD LAYER
 ft AMSL FEET ABOVE MEAN SEA LEVEL

figure 2.3

REGIONAL GEOLOGIC CROSS-SECTION
 DRESDEN GENERATING STATION
 EXELON GENERATION COMPANY, LLC
 Morris, Illinois





SCALE VERIFICATION

THIS BAR MEASURES 1" ON ORIGINAL. ADJUST SCALE ACCORDINGLY.

EXELON GENERATION COMPANY, LLC

FLEETWIDE ASSESSMENT

LOCAL GEOLOGIC CROSS-SECTION A-A'
DRESDEN GENERATING STATION
MORRIS, ILLINOIS



CONESTOGA-ROVERS
& ASSOCIATES

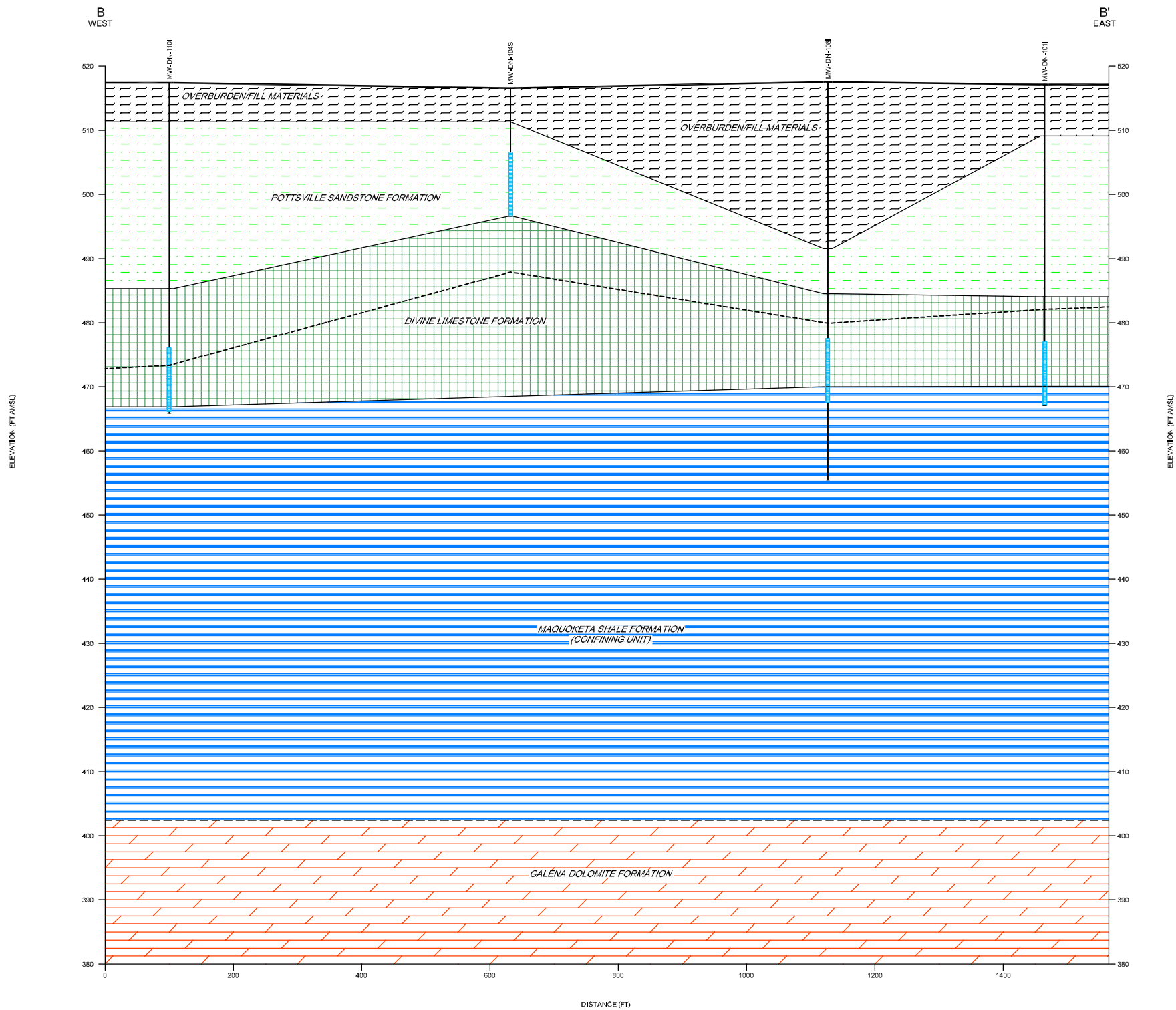
Source References:
SDI CONSULTANTS LTD., ALTA/ACSM LAND TITLE SURVEY,
DRESDEN NUCLEAR STATION, 9-15-00

| | | |
|--------------------------------|--------------------------|---------------------------|
| Project Manager: S. QUIGLEY | Reviewed By: M. KELLY | Date: AUGUST 2005 |
| Scale: AS SHOWN | Project N°: 45136-23 | Report N°: 015 |
| | | Drawing N°: figure 5.2 |

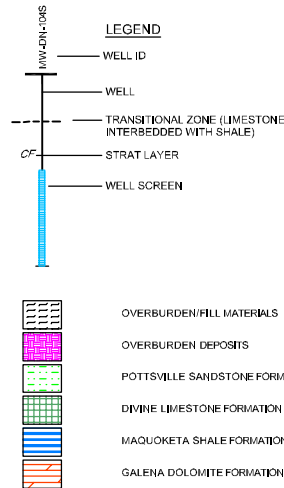
NOTE: STRATIGRAPHIC DATA ARE BASED PRIMARILY ON THE
MONITORING WELLS INSTALLED BY CRA IN 2005

REVISION 1

45136-23(015)GN-WA063 AUG 31/2005



NOTE: STRATIGRAPHIC DATA ARE BASED PRIMARILY ON THE
MONITORING WELLS INSTALLED BY CRA IN 2006



SCALE VERIFICATION

THIS BAR MEASURES 1" ON ORIGINAL. ADJUST SCALE ACCORDINGLY.

EXELON GENERATION COMPANY, LLC

FLEETWIDE ASSESSMENT

LOCAL GEOLOGIC CROSS-SECTION B-B'
DRESDEN GENERATING STATION
MORRIS, ILLINOIS

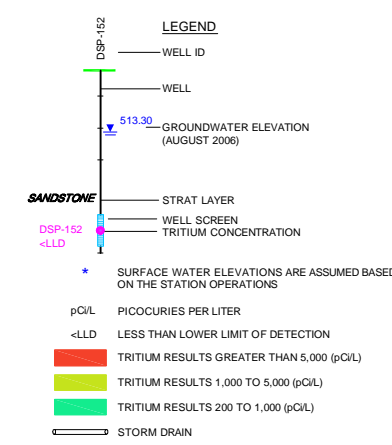


Source References:
SDI CONSULTANTS LTD., ALTA/ACSM LAND TITLE SURVEY,
DRESDEN NUCLEAR STATION, 9-15-00

| | | |
|--------------------------------|--------------------------|---------------------------|
| Project Manager: S. QUIGLEY | Reviewed By: M. KELLY | Date: AUGUST 2006 |
| Scale: AS SHOWN | Project N°: 45136-23 | Report N°: 015 |
| | | Drawing N°: figure 5.3 |

REVISION 1

45136-23(015)GN-WA063 AUG 31/2006



SCALE VERIFICATION

THIS BAR MEASURES 1" ON ORIGINAL. ADJUST SCALE ACCORDINGLY.

FLEETWIDE ASSESSMENT

HYDROGEOLOGIC PROFILE - A-A'
DRESDEN GENERATING STATION
MORRIS, ILLINOIS

Source Reference:

| | |
|------------------|------------|
| Project Manager: | S. QUIGLEY |
|------------------|------------|

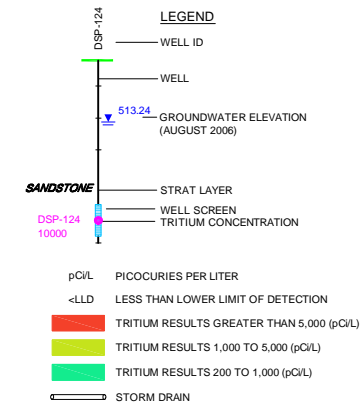
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| Reviewed By: | D.CRUICKSHANK |
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| | Date: | AUGUST 2006 |
|--|-------|-------------|

Scale: AS SHOWN

| | |
|--------------------------|----------|
| Project N ^o : | 45136-23 |
|--------------------------|----------|

| | |
|------------|-------------|
| Report N°: | Drawing N°: |
| 015 | figure 6.1 |



THIS BAR MEASURES 1" ON ORIGINAL. ADJUST SCALE ACCORDINGLY.

HYDROGEOLOGIC PROFILE - B-B'
DRESDEN GENERATING STATION
MORRIS, ILLINOIS

Source Reference:

| | |
|-------|-------------|
| Date: | AUGUST 2006 |
|-------|-------------|

| | |
|------------|-------------|
| Report N°: | Drawing N°: |
| 015 | figure 6.2 |

TABLE 4.1

**SUMMARY OF MONITORING WELL INSTALLATION DETAILS
FLEETWIDE ASSESSMENT
DRESDEN GENERATING STATION
MORRIS, ILLINOIS**

| Sample Location | | | Installation Date | Surface Elevation (ft AMSL) ⁽²⁾ | Reference Elevation (ft AMSL) | Boring Total Depth (ft bgs) ⁽³⁾ | Screened Interval | | | | Well Construction | Hydrogeologic Unit Screened |
|--------------------|---------------------------------|-------------|----------------------|--|-------------------------------------|--|-------------------|--------|--------|--------|----------------------|-----------------------------------|
| | X-coord. | Y-coord. | | | | | Top | Bottom | Top | Bottom | | |
| | (UTM Coordinates ¹) | | | | | | | | | | | |
| MW-DN-101S | 1292754.52 | 15035691.89 | 5/5/2006 | 517.10 | 520.30 | 20 | 10 | 20 | 507.10 | 497.10 | 2-inch PVC Screen | sandstone |
| MW-DN-101I | 1292749.73 | 15035691.63 | 5/10/2006 | 517.08 | 520.48 | 50 | 40 | 50 | 477.08 | 467.08 | 2-inch PVC Screen | limestone |
| MW-DN-102S | 1291970.66 | 15034981.38 | 5/8/2006 | 516.98 | 516.68 | 15 | 5 | 15 | 511.98 | 501.98 | 2-inch PVC Screen | sandstone |
| MW-DN-102I | 1291974.96 | 15034980.06 | 5/10/2006 | 516.91 | 516.63 | 51 | 40 | 50 | 476.91 | 466.91 | 2-inch PVC Screen | limestone |
| MW-DN-103S | 1291438.38 | 15034732.26 | 5/3/2006 | 519.53 | 522.12 | 20 | 10 | 20 | 509.53 | 499.53 | 2-inch PVC Screen | sandstone |
| MW-DN-103I | 1291438.37 | 15034725.53 | 5/3/2006 | 520.13 | 522.72 | 62 | 31.2 | 41.2 | 488.93 | 478.93 | 2-inch PVC Screen | limestone |
| MW-DN-104S | 1291936.65 | 15035728.47 | 5/9/2006 | 516.60 | 516.38 | 20 | 10 | 20 | 506.60 | 496.60 | 2-inch PVC Screen | sandstone |
| MW-DN-105S | 1292920.89 | 15035163.96 | 5/5/2006 | 516.52 | 516.68 | 20 | 10 | 20 | 506.52 | 496.52 | 2-inch PVC Screen | sandstone |
| MW-DN-106S | 1292788.38 | 15036048.97 | 5/3/2006 | 513.88 | 516.42 | 20 | 10 | 20 | 503.88 | 493.88 | 2-inch PVC Screen | sandstone |
| MW-DN-107S | 1292169.66 | 15035276.73 | 5/15/2006 | 516.63 | 518.23 | 6.5 | 1.5 | 6.5 | 515.13 | 510.13 | 2-inch PVC Screen | overburden/fill material |
| MW-DN-108I | 1292418.94 | 15035621.00 | 5/12/2006 | 517.49 | 517.14 | 62 | 40 | 50 | 477.49 | 467.49 | 2-inch PVC Screen | limestone |
| MW-DN-109S | 1291668.32 | 15035430.95 | 5/9/2006 | 516.29 | 516.32 | 20 | 10 | 20 | 506.29 | 496.29 | 2-inch PVC Screen | sandstone |
| MW-DN-109I | 1291673.27 | 15035431.11 | 5/9/2006 | 516.27 | 516.31 | 51 | 40 | 50 | 476.27 | 466.27 | 2-inch PVC Screen | limestone |
| MW-DN-110S | 1291410.28 | 15035726.77 | 5/4/2006 | 517.16 | 517.28 | 20.2 | 10.2 | 20.2 | 506.96 | 496.96 | 2-inch PVC Screen | sandstone |
| MW-DN-110I | 1291404.75 | 15035724.76 | 5/4/2006 | 517.34 | 517.41 | 51.5 | 41.2 | 51.2 | 476.14 | 466.14 | 2-inch PVC Screen | limestone |
| MW-DN-111S | 1291825.08 | 15035252.07 | 5/4/2006 | 517.19 | 516.63 | 20 | 10 | 20 | 507.19 | 497.19 | 2-inch PVC Screen | sandstone |
| MW-DN-112S | 1291687.438 | 15035163.73 | 7/25/2006 | 516.72 | 516.35 | 12.00 | 7.0 | 12.0 | 509.72 | 504.72 | 2-inch PVC Screen | sandstone |
| MW-DN-112I | 1291687.61 | 15035160.79 | 7/27/2006 | 516.56 | 516.22 | 41.5 | 31.5 | 41.5 | 485.06 | 475.06 | 2-inch PVC Screen | limestone |
| MW-DN-113S | 1292128.616 | 15034829.18 | 7/26/2006 | 516.36 | 516.13 | 11.0 | 6.0 | 11.0 | 510.36 | 505.36 | 2-inch PVC Screen | sandstone |
| MW-DN-113I | 1292133.339 | 15034829.09 | 7/26/2006 | 516.33 | 516.13 | 48.0 | 38.0 | 48.0 | 478.33 | 468.33 | 2-inch PVC Screen | limestone and shale |
| MW-DN-114S | 1292267.724 | 15035256.93 | 7/27/2006 | 516.76 | 516.31 | 42.0 | 31.0 | 41.0 | 485.76 | 475.76 | 2-inch PVC Screen | sandstone |
| MW-DN-114I | 1292264.824 | 15035231.87 | 7/31/2006 | 519.71 | 519.97 | 53.0 | 48.0 | 53.0 | 471.71 | 466.71 | 2-inch PVC Screen | limestone and shale |
| MW-DN-115S | 1292438.135 | 15035151.31 | 7/31/2006 | 516.89 | 516.58 | 30.0 | 25.0 | 30.0 | 491.89 | 486.89 | 2-inch PVC Screen | sandstone |
| MW-DN-115I | 1292441.016 | 15035151.25 | 7/28/2006 | 516.88 | 516.63 | 63.0 | 46.0 | 56.0 | 470.88 | 460.88 | 2-inch PVC Screen | limestone |
| MW-DN-116S | 1292386.958 | 15035670.71 | 7/26/2006 | 517.40 | 517.11 | 28.0 | 23.0 | 28.0 | 494.40 | 489.40 | 2-inch PVC Screen | sandstone |
| MW-DN-116I | 1292378.009 | 15035670.4 | 7/26/2006 | 517.30 | 516.84 | 49.0 | 35.5 | 45.5 | 481.80 | 471.80 | 2-inch PVC Screen | limestone |
| MW-DN-117I | 1292547.509 | 15035558.2 | 7/26/2006 | 517.75 | 518.22 | 47.3 | 37.0 | 47.0 | 480.75 | 470.75 | 2-inch PVC Screen | limestone |
| MW-DN-118S | 1292739.289 | 15035265.24 | 7/26/2006 | 516.38 | 516.13 | 35.0 | 23.0 | 33.0 | 493.38 | 483.38 | 2-inch PVC Screen | sandstone |
| MW-DN-119S | 1292903.761 | 15035634.86 | 7/27/2006 | 516.52 | 516.16 | 21.0 | 16.0 | 21.0 | 500.52 | 495.52 | 2-inch PVC Screen | sandstone |
| MW-DN-119I | 1292898.723 | 15035634.1 | 7/27/2006 | 518.45 | 517.97 | 43.0 | 32.0 | 42.0 | 486.45 | 476.45 | 2-inch PVC Screen | limestone |
| MW-DN-120S | 1293830.442 | 15035510.63 | 7/25/2006 | 511.85 | 513.93 | 38.0 | 28.0 | 38.0 | 483.85 | 473.85 | 2-inch PVC Screen | sandstone |
| MW-DN-120I | 1293828.088 | 15035505.4 | 7/25/2006 | 511.59 | 513.89 | 58.0 | 47.5 | 57.5 | 464.09 | 454.09 | 2-inch PVC Screen | limestone and shale |

TABLE 4.1

**SUMMARY OF MONITORING WELL INSTALLATION DETAILS
FLEETWIDE ASSESSMENT
DRESDEN GENERATING STATION
MORRIS, ILLINOIS**

| Sample Location | X-coord. | Y-coord. | Installation Date | Surface Elevation (ft AMSL) ⁽²⁾ | Reference Elevation (ft AMSL) | Boring Total Depth (ft bgs) ⁽³⁾ | Screened Interval | | | | Well Construction | Hydrogeologic Unit Screened |
|-----------------|-------------|-------------|-------------------|---|----------------------------------|---|-------------------|--------|-----------|--------|-------------------|-----------------------------|
| | | | | | | | Top | Bottom | Top | Bottom | | |
| | | | | | | | (ft bgs) | | (ft AMSL) | | | |
| MW-DN-121S | 1291006.629 | 15035519.61 | 7/24/2006 | 515.93 | 518.63 | 26.9 | 14.5 | 24.5 | 501.43 | 491.43 | 2-inch PVC Screen | sandstone |
| MW-DN-122S | 1290479.543 | 15032860.49 | 7/24/2006 | 525.72 | 528.43 | 12.5 | 6.5 | 11.5 | 519.22 | 514.22 | 2-inch PVC Screen | sandstone |
| MW-DN-122I | 1290479.679 | 15032865.52 | 7/24/2006 | 525.53 | 528.18 | 43.0 | 32.8 | 42.8 | 492.73 | 482.73 | 2-inch PVC Screen | limestone and shale |
| MW-DN-123S | 1291955.928 | 15031851.29 | 7/25/2006 | 512.98 | 515.03 | 20.0 | 14.0 | 19.0 | 498.98 | 493.98 | 2-inch PVC Screen | |
| MW-DN-123I | 1291955.16 | 15031842.23 | 7/25/2006 | 512.71 | 516.65 | 44.5 | 34.0 | 44.0 | 478.71 | 468.71 | 2-inch PVC Screen | limestone |

Notes:

(1) Universal Transverse Mercator (UTM), Zone 16, NAVD 88, in feet

(2) ft AMSL - feet above mean sea level

(3) ft bgs - feet below ground surface

PVC polyvinyl chloride

TABLE 4.2

**SUMMARY OF MONITORING WELL DEVELOPMENT PARAMETERS
FLEETWIDE ASSESSMENT
DRESDEN GENERATING STATION
MORRIS, ILLINOIS**

| <i>Sample Location</i> | <i>Date</i> | <i>Well Volume (gallons)</i> | <i>Volume Purged (gallons)</i> | <i>pH (Std. Units) ⁽¹⁾</i> | <i>Conductivity (μS/cm) ⁽²⁾</i> | <i>Temperature (°C) ⁽³⁾</i> | <i>Turbidity (NTU) ⁽⁴⁾</i> | <i>Observations</i> |
|----------------------------|-------------|--------------------------------------|--|---|---|--|---|---------------------|
| MW-DN-101S | 5/12/2006 | 1.57 | 1.5 | 7.17 | 97 | 11.3 | 48.5 | brown |
| | | | 3.0 | 7.15 | 96 | 11.4 | 32.1 | brown |
| | | | 4.5 | 7.16 | 95 | 11.7 | 13.2 | brown |
| | | | Well dry at 5 gallons | | | | | |
| | | | 6.0 | 7.18 | 95 | 10.9 | 264.0 | gray |
| | | | 7.5 | 7.16 | 95 | 11.5 | 1.1 | gray |
| | | | Well dry at 7.5 gallons | | | | | |
| | | | 9.0 | 7.83 | 761 | 13.5 | 174.0 | gray |
| | | | 10.5 | 7.87 | 711 | 13.3 | 142.0 | gray |
| | | | 12.0 | 7.94 | 678 | 14.0 | 69.0 | gray |
| | | | Well dry at 12 gallons | | | | | |
| MW-DN-101I | 5/15/2006 | 6.07 | 6 | 7.18 | 107 | 15.5 | 44.6 | gray |
| | | | Well dry | | | | | |
| | | | 12 | 7.54 | 1033 | 14.9 | 2.2 | gray |
| | | | 18 | 7.69 | 1025 | 15.0 | 34.2 | gray |
| | | | 24 | 7.76 | 955 | 14.9 | 24.3 | gray |
| | | | 30 | 7.65 | 982 | 15.1 | 120.9 | gray |
| | | | 36 | 7.52 | 924 | 15.4 | 251.0 | gray |
| | | | 42 | 7.61 | 861 | 15.6 | 74.3 | gray |
| | | | 48 | 7.67 | 850 | 16.2 | 28.6 | gray |
| | | | 54 | 7.36 | 847 | 15.8 | 54.7 | clear |
| | | | 60 | 7.47 | 839 | 16.1 | 10.3 | clear |

TABLE 4.2

**SUMMARY OF MONITORING WELL DEVELOPMENT PARAMETERS
FLEETWIDE ASSESSMENT
DRESDEN GENERATING STATION
MORRIS, ILLINOIS**

| <i>Sample Location</i> | <i>Date</i> | <i>Well Volume (gallons)</i> | <i>Volume Purged (gallons)</i> | <i>pH (Std. Units) ⁽¹⁾</i> | <i>Conductivity (µS/cm) ⁽²⁾</i> | <i>Temperature (°C) ⁽³⁾</i> | <i>Turbidity (NTU) ⁽⁴⁾</i> | <i>Observations</i> |
|------------------------|-------------|------------------------------|--------------------------------|---------------------------------------|--|--|---------------------------------------|---------------------|
| MW-DN-102S | 5/15/2006 | 1.97 | 2 | 7.14 | 1378 | 18.4 | 0.4 | brown |
| | | | 4 | 7.01 | 1356 | 18.6 | 0.1 | brown |
| | | | | | Well dry | | | |
| | | | 6 | 7.20 | 1245 | 18.0 | 1.1 | brown |
| | | | 8 | 7.20 | 1249 | 18.2 | 0.8 | brown |
| | | | | | Well dry | | | |
| | | | 10 | 7.29 | 1100 | 19.1 | 290.0 | brown |
| | | | 12 | 7.15 | 1152 | 18.5 | 9.6 | brown |
| | | | | | Well dry | | | |
| | | | 14 | 7.35 | 1101 | 18.5 | 127.0 | brown |
| MW-DN-102I | 5/15/2006 | 6.71 | 16 | 7.16 | 1083 | 18.4 | 29.0 | brown |
| | | | | | Well dry | | | |
| | | | 7 | 7.91 | 1110 | 18.2 | 34.4 | gray |
| | | | | | Well dry | | | |
| | | | 14 | 8.12 | 884 | 18.4 | 214.0 | gray |
| MW-DN-103S | 5/16/2006 | 1.7 | 21 | 7.90 | 831 | 17.7 | 15.4 | gray |
| | | | | | Well dry | | | |
| | | | | | | | | |
| MW-DN-103S | 5/16/2006 | 1.7 | 1.7 | 7.03 | NA ⁽⁵⁾ | 13.3 | 864 | brown |
| | | | 2.4 | - | - | - | - | - |
| | | | 4.1 | 7.08 | NA ⁽⁵⁾ | 13.0 | 446 | brown |
| | | | 4.4 | - | - | - | - | - |
| | | | 6.1 | 6.86 | NA ⁽⁵⁾ | 13.2 | 107 | brown |
| | | | 6.3 | - | - | - | - | - |
| | | | | | | | | |

TABLE 4.2

**SUMMARY OF MONITORING WELL DEVELOPMENT PARAMETERS
FLEETWIDE ASSESSMENT
DRESDEN GENERATING STATION
MORRIS, ILLINOIS**

| <i>Sample Location</i> | <i>Date</i> | <i>Well Volume (gallons)</i> | <i>Volume Purged (gallons)</i> | <i>pH (Std. Units) ⁽¹⁾</i> | <i>Conductivity (µS/cm) ⁽²⁾</i> | <i>Temperature (°C) ⁽³⁾</i> | <i>Turbidity (NTU) ⁽⁴⁾</i> | <i>Observations</i> |
|------------------------|-------------|------------------------------|--------------------------------|---------------------------------------|--|--|---------------------------------------|---------------------|
| MW-DN-103I | 5/16/2006 | 4.7 | 4.7 | 7.15 | NA ⁽⁵⁾ | 14.1 | >999 | brown, sulfur odor |
| | | | 9.4 | 7.07 | NA ⁽⁵⁾ | 14.6 | >999 | brown, sulfur odor |
| | | | 14.1 | 7.17 | NA ⁽⁵⁾ | 15.0 | >999 | brown, sulfur odor |
| | | | 18.5 | 7.1 | NA ⁽⁵⁾ | 14.5 | 258 | brown, sulfur odor |
| | | | 23.2 | 7.12 | NA ⁽⁵⁾ | 14.5 | 178 | brown, sulfur odor |
| | | | 27.9 | 7.03 | NA ⁽⁵⁾ | 14.4 | 55.9 | brown, sulfur odor |
| | | | 32.6 | 7.05 | NA ⁽⁵⁾ | 14.4 | 58.1 | brown, sulfur odor |
| | | | 37.3 | 7.09 | NA ⁽⁵⁾ | 14.4 | 102 | brown, sulfur odor |
| | | | 41.9 | 7.07 | NA ⁽⁵⁾ | 14.4 | 111 | brown, sulfur odor |
| | | | 46.2 | 7.04 | NA ⁽⁵⁾ | 14.4 | 96 | brown, sulfur odor |
| MW-DN-104S | 5/15/2006 | 2.2 | 2.2 | 6.40 | 362 | 22.4 | >999 | brown |
| | | | 4.5 | 6.38 | 368 | 22.6 | >999 | brown |
| | | | | | Well dry | | | |
| | | | 6.7 | 7.04 | 227 | 23.2 | >999 | gray |
| | | | 8.3 | 6.41 | 176 | 23.0 | >999 | gray |
| | | | | | Well dry | | | |
| | | | 10.5 | 6.74 | 163 | 22.5 | >999 | gray |
| MW-DN-105S | 5/15/2006 # | 2.7 | | | Well dry | | | |
| | | | 2.7 | 7.8 | 405 | 15.2 | 685 | brown |
| | | | 4.0 | - | - | - | - | brown |
| | | | | | Well dry | | | |
| | | | 6.7 | 7.28 | 182 | 14.1 | >999 | gray |
| | | | | | Well dry | | | |
| | | | 9.4 | 7.26 | 176 | 14.0 | >999 | gray |
| | | | | | Well dry | | | |

TABLE 4.2

SUMMARY OF MONITORING WELL DEVELOPMENT PARAMETERS
FLEETWIDE ASSESSMENT
DRESDEN GENERATING STATION
MORRIS, ILLINOIS

| <i>Sample Location</i> | <i>Date</i> | <i>Well Volume (gallons)</i> | <i>Volume Purged (gallons)</i> | <i>pH (Std. Units) ⁽¹⁾</i> | <i>Conductivity (μS/cm) ⁽²⁾</i> | <i>Temperature (°C) ⁽³⁾</i> | <i>Turbidity (NTU) ⁽⁴⁾</i> | <i>Observations</i> |
|------------------------|-------------|------------------------------|--------------------------------|---------------------------------------|--|--|---------------------------------------|---------------------|
| MW-DN-106S | 5/16/2006 | 2.08 | 2.1 | 7.01 | 175.6 | 12.7 | >999 | brown |
| | | | 3.2 | - | - | - | - | - |
| | | | 5.3 | 6.95 | 157.9 | 12.6 | >999 | brown |
| | | | 6.5 | - | - | - | - | - |
| | | | 8.6 | 6.95 | NA ⁽⁵⁾ | 12.3 | >999 | brown |
| | | | 9.3 | - | - | - | - | - |
| | | | | | Well dry | | | |
| | | | | | Well dry | | | |
| | | | | | Well dry | | | |
| | | | | | Well dry | | | |
| MW-DN-107S | 5/15/2006 | 0.26 | 0.25 | 7.93 | 362 | 26.7 | >999 | brown |
| | | | 0.50 | 7.90 | 368 | 28.5 | >999 | brown |
| | | | 0.75 | 7.88 | 360 | 28.6 | >999 | brown |
| | | | 1.00 | 7.87 | 352 | 28.8 | >999 | brown |
| | | | 1.25 | 7.90 | 348 | 29.0 | >999 | brown |
| | | | 1.50 | 7.92 | 348 | 28.8 | >999 | brown |
| | | | 1.75 | 7.93 | 344 | 28.8 | >999 | brown |
| | | | 2.00 | 7.94 | 340 | 28.8 | >999 | brown |
| | | | 2.25 | 7.96 | 335 | 28.8 | >999 | brown |
| | | | 2.50 | 7.98 | 331 | 28.8 | >999 | brown |
| MW-DN-108I | 5/16/2006 | 1.49 | 1.5 | 7.84 | 734 | 15.6 | 69.8 | - |
| | | | 3.0 | 7.88 | 730 | 15.5 | 71.1 | - |
| | | | 4.5 | 7.85 | 721 | 15.5 | 76.8 | - |
| | | | 6.0 | 7.87 | 731 | 15.4 | 88.0 | - |
| | | | 7.5 | 7.86 | 722 | 15.8 | 105.9 | - |
| | | | 9.0 | 7.90 | 724 | 16.2 | 101.6 | - |
| | | | 10.5 | 7.88 | 726 | 15.4 | 77.4 | - |
| | | | 12.0 | 7.91 | 726 | 15.5 | 76.2 | - |
| | | | 13.5 | 7.88 | 710 | 15.4 | 75.4 | - |
| | | | 15.0 | 7.90 | 721 | 15.7 | 77.7 | - |

TABLE 4.2

SUMMARY OF MONITORING WELL DEVELOPMENT PARAMETERS
FLEETWIDE ASSESSMENT
DRESDEN GENERATING STATION
MORRIS, ILLINOIS

| <i>Sample Location</i> | <i>Date</i> | <i>Well Volume (gallons)</i> | <i>Volume Purged (gallons)</i> | <i>pH (Std. Units) ⁽¹⁾</i> | <i>Conductivity (μS/cm) ⁽²⁾</i> | <i>Temperature (°C) ⁽³⁾</i> | <i>Turbidity (NTU) ⁽⁴⁾</i> | <i>Observations</i> |
|------------------------|-------------|------------------------------|--------------------------------|---------------------------------------|--|--|---------------------------------------|---------------------|
| MW-DN-109S | 5/12/2006 | 2.17 | 2.2 | 7.17 | 131.8 | 13.2 | 80.9 | brown |
| | | | 4.4 | 7.13 | 134.6 | 13.7 | 77.2 | brown |
| | | | 6.6 | 7.12 | 138.8 | 14.0 | 73.6 | brown |
| | | | 8.8 | 7.11 | 140.7 | 14.1 | 25.6 | brown |
| | | | 11.0 | 7.11 | 144.5 | 14.4 | 13.1 | brown |
| | | | 13.2 | 7.11 | 142.9 | 14.0 | 193.0 | brown |
| | | | 15.4 | 7.12 | 143.7 | 14.0 | 157.9 | brown |
| | | | 17.6 | 7.13 | 141.9 | 13.8 | 182.9 | brown |
| | | | 19.8 | 7.12 | 145.0 | 14.2 | 174.9 | brown |
| | | | 24.0 | 7.13 | 144.2 | 13.9 | 47.1 | brown |
| MW-DN-109I | 5/11/2006 | 7.09 | 7.0 | 7.82 | 161.1 | 15.7 | 38.0 | brown |
| | | | 14.0 | 7.93 | 164.0 | 16.1 | 0.1 | brown |
| | | | | | Well dry after 2 volumes | | | |
| | | | 21.0 | 7.17 | 127.5 | 15.0 | 164.4 | brown |
| | | | 28.0 | 7.22 | 145.9 | 14.9 | 17.2 | brown |
| | | | | | Well dry after 2 volumes | | | |
| | | | 35.0 | 7.18 | 113.0 | 15.0 | 172.5 | brown |
| MW-DN-110S | 5/11/2006 | 2.44 | | | Well dry after 1 volume | | | |
| | | | 2.5 | 6.84 | 199.9 | 13.8 | 2.0 | gray |
| | | | 5.0 | 6.86 | 189.7 | 14.0 | 0.4 | gray |
| | | | 8.0 | 6.97 | 195.5 | 14.0 | 46.8 | gray |
| | | | | | Well dry | | | |
| | | | 10.5 | 7.08 | 143.2 | 13.8 | 265.0 | gray |
| | | | 13.0 | 7.11 | 151.0 | 14.4 | 16.1 | gray |
| | | | | | Well running dry | | | |
| | | | 18.0 | 7.02 | 157.2 | 13.7 | 52.0 | gray |
| | | | 20.5 | 7.11 | 147.4 | 13.5 | 228.0 | gray |
| | | | | | Well dry | | | |

TABLE 4.2

**SUMMARY OF MONITORING WELL DEVELOPMENT PARAMETERS
FLEETWIDE ASSESSMENT
DRESDEN GENERATING STATION
MORRIS, ILLINOIS**

| <i>Sample Location</i> | <i>Date</i> | <i>Well Volume (gallons)</i> | <i>Volume Purged (gallons)</i> | <i>pH (Std. Units) ⁽¹⁾</i> | <i>Conductivity (µS/cm) ⁽²⁾</i> | <i>Temperature (°C) ⁽³⁾</i> | <i>Turbidity (NTU) ⁽⁴⁾</i> | <i>Observations</i> |
|------------------------|-------------|------------------------------|--------------------------------|---------------------------------------|--|--|---------------------------------------|-------------------------------------|
| MW-DN-110I | 5/15/2006 | 6.87 | 7 | 7.60 | 493 | 15.9 | 2.5 | gray |
| | | | 14 | 7.40 | 133.2 | 16.3 | 285.0 | gray |
| | | | 21 | 7.11 | 170.1 | 14.2 | 265.0 | gray |
| | | | | | | | | |
| MW-DN-111S | 5/15/2006 | 2.36 | 2.4 | 6.42 | 143 | 17.4 | >999 | brown, petroleum odor, slight sheen |
| | | | 5.0 | 6.38 | 137 | 17.3 | >999 | brown, petroleum odor, slight sheen |
| | | | 7.5 | 7.65 | 145 | 17.3 | >999 | brown, petroleum odor, slight sheen |
| | | | 10.0 | 7.28 | 125 | 17.8 | >999 | brown, petroleum odor, slight sheen |
| | | | 12.5 | 7.17 | 115 | 18.2 | >999 | brown, petroleum odor, slight sheen |
| | | | 15.0 | 7.07 | 111 | 18.2 | >999 | brown, petroleum odor, slight sheen |
| | | | 17.4 | 7.61 | 122 | 17.0 | >999 | brown, petroleum odor, slight sheen |
| MW-DN-112S | 7/25/2006 | 1.44 | 0 | 6.76 | 1125 | | | |
| | | | 1.5 | 7.21 | 1196 | | | |
| | | | 3.0 | 7.13 | 1158 | | | |
| | | | | Well dry at 4.5 gallons | | | | |
| | | | 4.5 | 6.94 | 1258 | | | |
| | | | 6.0 | 7.02 | 1294 | | | |
| | | | 7.5 | Well dry at 8 gallons | | | | |
| | | | 8.0 | 7.02 | 1200 | | | |
| | | | 9.5 | 7.06 | 1244 | | | |
| | | | 11.0 | 7.12 | 1219 | | | |
| | | | | Well dry at 11 gallons | | | | |

TABLE 4.2

**SUMMARY OF MONITORING WELL DEVELOPMENT PARAMETERS
FLEETWIDE ASSESSMENT
DRESDEN GENERATING STATION
MORRIS, ILLINOIS**

| <i>Sample Location</i> | <i>Date</i> | <i>Well Volume (gallons)</i> | <i>Volume Purged (gallons)</i> | <i>pH (Std. Units) ⁽¹⁾</i> | <i>Conductivity (µS/cm) ⁽²⁾</i> | <i>Temperature (°C) ⁽³⁾</i> | <i>Turbidity (NTU) ⁽⁴⁾</i> | <i>Observations</i> |
|------------------------|-------------|------------------------------|--------------------------------|---------------------------------------|--|--|---------------------------------------|---------------------|
| MW-DN-112I | 7/26/2006 | 5.98 | 0 | 7.53 | 1,086 | | | |
| | | | 6.0 | 7.59 | 1002 | | | |
| | | | | | Well dry at 10 gallons | | | |
| | | | 13.0 | 7.21 | 1030 | 18.9 | | silty gray |
| | | | 15.0 | 7.42 | 1027 | 17.3 | | silty, brown/gray |
| | | | 16.0 | 7.47 | 1080 | 18.2 | | silty, brown/gray |
| | | | | | Well dry at 16 gallons | | | |
| | | | 21.0 | 7.49 | 849 | 17.78 | | silty, brown/gray |
| | | | 23.0 | 7.53 | 1007 | 17.6 | | silty, gray |
| | | | | | Well dry at 23 gallons | | | |
| MW-DN-113S | 7/25/2006 | 1.36 | 0.0 | 7.17 | 1068 | | | |
| | | | 1.5 | 7.09 | 1036 | | | |
| | | | | | Well dry at 3.5 gallons | | | |
| | | | 3.5 | 7.02 | 1067 | | | |
| | | | 5.0 | 7.20 | 1075 | | | |
| | | | | | Well dry at 5.5 gallons | | | |
| | | | 5.5 | 6.88 | 1031 | | | |
| | | | 7.0 | 6.45 | 1008 | | | |
| | | | | | Well dry at 7.75 gallons | | | |
| MW-DN-113I | 7/25/2006 | 7.08 | 7.25 | 7.15 | 1107 | | | |
| | | | | | Well dry at 10 gallons | | | |
| | | | 10.0 | 7.27 | 1180 | | | |
| | | | 17.25 | 7.53 | 1069 | | | |
| | | | 21.0 | 7.47 | 1102 | | | |
| | | | | | Well dry at 21 gallons | | | |
| | | | 28.25 | 7.47 | 890 | | | |
| | | | 35.5 | 7.43 | 1038 | | | |

TABLE 4.2

SUMMARY OF MONITORING WELL DEVELOPMENT PARAMETERS
FLEETWIDE ASSESSMENT
DRESDEN GENERATING STATION
MORRIS, ILLINOIS

| <i>Sample Location</i> | <i>Date</i> | <i>Well Volume (gallons)</i> | <i>Volume Purged (gallons)</i> | <i>pH (Std. Units) ⁽¹⁾</i> | <i>Conductivity (µS/cm) ⁽²⁾</i> | <i>Temperature (°C) ⁽³⁾</i> | <i>Turbidity (NTU) ⁽⁴⁾</i> | <i>Observations</i> |
|------------------------|-------------|------------------------------|--------------------------------|---------------------------------------|--|--|---------------------------------------|---------------------------------|
| MW-DN-114S | 7/27/2006 | 5.1 | 10.00 | 7.04 | 925 | 22.4 | | silty/brownish gray/slight odor |
| | | | | | Well dry | | | |
| | | | 17.5 | 7.06 | 867 | 21.5 | | cloudy, brownish gray |
| | | | | | Well dry | | | |
| MW-DN-114I | 7/31/2006 | 7.2 | 27.5 | 7.05 | 895 | 21.6 | | cloudy, brownish gray |
| | | | | | Well dry | | | |
| | | | 15.0 | 6.77 | 1570 | 20.2 | | cloudy, gray, sulfur odor |
| | | | 30.0 | 6.82 | 1568 | 20.0 | | clearing, sulfur odor |
| | | | 45.0 | 6.80 | 1560 | 20.1 | | slightly cloudy, sulfur odor |
| MW-DN-115S | 7/31/2006 | 3.7 | 60.0 | 6.78 | 1550 | 19.9 | | clear, sulfur odor |
| | | | 80.0 | 6.79 | 1552 | 20 | | clear, sulfur odor |
| | | | 8.0 | 6.78 | 1000 | 20.3 | | silty gray |
| | | | | | Well dry at 10 gallons | | | |
| | | | 16.0 | 6.85 | 1030 | 20.8 | | silty gray |
| MW-DN-115I | 7/28/2006 | 7.72 | | | Well dry at 18 gallons | | | |
| | | | 24.0 | 6.79 | 1035 | 20.8 | | silty gray |
| | | | | | Well dry at 26 gallons | | | |
| | | | 20.0 | 8.72 | 884 | 19.3 | | cloudy, gray, sulfur odor |
| | | | 40.0 | 8.10 | 1010 | 19.5 | | cloudy, gray, sulfur odor |
| | | | 60.0 | 7.63 | 1244 | 19.8 | | clearing, sulfur odor |
| | | | 70.0 | 7.68 | 1252 | 19.9 | | clearing, sulfur odor |
| | | | 80.0 | 7.68 | 1251 | 19.9 | | clearing, sulfur odor |
| | | | | | | | | |

TABLE 4.2

SUMMARY OF MONITORING WELL DEVELOPMENT PARAMETERS
FLEETWIDE ASSESSMENT
DRESDEN GENERATING STATION
MORRIS, ILLINOIS

| <i>Sample Location</i> | <i>Date</i> | <i>Well Volume (gallons)</i> | <i>Volume Purged (gallons)</i> | <i>pH (Std. Units) ⁽¹⁾</i> | <i>Conductivity (µS/cm) ⁽²⁾</i> | <i>Temperature (°C) ⁽³⁾</i> | <i>Turbidity (NTU) ⁽⁴⁾</i> | <i>Observations</i> |
|------------------------|-------------|------------------------------|--------------------------------|---------------------------------------|--|--|---------------------------------------|--|
| MW-DN-116S | 7/25/2006 | 2.34 | 0.0 | 6.8 | 862 | | | |
| | | | 2.5 | 6.94 | 847 | | | |
| | | | | | Well dry at 4.5 gallons | | | |
| | | | 4.5 | 7.38 | 848 | | | |
| | | | 7.0 | 7.17 | 816 | | | |
| | | | | | Well dry at 8.5 gallons | | | |
| | | | 8.5 | 7.10 | 806 | | | |
| | | | 11.0 | 7.19 | 803 | | | |
| | | | | | Well dry at 12.5 gallons | | | |
| | | | | | | | | |
| MW-DN-116I | 7/26/2006 | 5.2 | 5.25 | 6.97 | 1210 | 17 | | Very silty, brown, sulfur odor |
| | | | 10.50 | 6.94 | 1160 | 15.9 | | Very silty, brown, sulfur odor |
| | | | 15.75 | 6.9 | 1190 | 16.2 | | Very silty, brown, sulfur odor |
| | | | 21.00 | 6.92 | 1190 | 16.2 | | less silt, light gray, sulfur odor |
| | | | 26.25 | 6.94 | 1170 | 16 | | less silt, light gray, sulfur odor |
| | | | 31.50 | 6.93 | 1160 | 16.1 | | Translucent, sulfur odor |
| | | | 36.75 | 6.93 | 1150 | 15.9 | | Translucent, sulfur odor |
| | | | 42.00 | 6.93 | 1150 | 15.8 | | Translucent, sulfur odor |
| | | | 47.25 | 6.94 | 1150 | 15.8 | | Translucent, sulfur odor |
| | | | 52.50 | 6.93 | 1120 | 16 | | Translucent, sulfur odor |
| MW-DN-117I | 7/26/2006 | 4.9 | 5.0 | 7.13 | 648 | 15.2 | | very silty, gray |
| | | | 10.0 | 6.96 | 649 | 15.2 | | very silty, gray |
| | | | 15.0 | 6.9 | 654 | 15.3 | | less silty, light gray |
| | | | 20.0 | 6.98 | 682 | 15.7 | | less silty, light gray |
| | | | 25.0 | 6.97 | 668 | 15.3 | | less silty, light gray |
| | | | 30.0 | 6.89 | 707 | 15.2 | | less silty, light gray |
| | | | 35.0 | 6.97 | 673 | 15.1 | | less silty, light gray |
| | | | 40.0 | 6.93 | 662 | 15.5 | | less silty, light gray |
| | | | 45.0 | 7.00 | 651 | 16.5 | | translucent, little sediment, no color |
| | | | 50.0 | 7.02 | 663 | 16.2 | | translucent, little sediment, no color |

TABLE 4.2

SUMMARY OF MONITORING WELL DEVELOPMENT PARAMETERS
FLEETWIDE ASSESSMENT
DRESDEN GENERATING STATION
MORRIS, ILLINOIS

| <i>Sample Location</i> | <i>Date</i> | <i>Well Volume (gallons)</i> | <i>Volume Purged (gallons)</i> | <i>pH (Std. Units) ⁽¹⁾</i> | <i>Conductivity (μS/cm) ⁽²⁾</i> | <i>Temperature (°C) ⁽³⁾</i> | <i>Turbidity (NTU) ⁽⁴⁾</i> | <i>Observations</i> |
|------------------------|-------------|------------------------------|--------------------------------|---------------------------------------|--|--|---------------------------------------|---------------------------|
| MW-DN-118S | 7/26/2006 | 3.7 | 3.75 | 7.05 | 970 | 19.2 | | opaque, light brown |
| | | | 7.5 | 6.96 | 980 | 18.8 | | opaque, light brown |
| | | | 11.25 | 7.01 | 970 | 18.3 | | opaque, light brown |
| | | | 15 | 7.01 | 960 | 17.8 | | slightly opaque, no color |
| | | | 18.75 | 6.95 | 887 | 18.2 | | slightly opaque, no color |
| | | | 22.5 | 6.97 | 950 | 17.5 | | slightly opaque, no color |
| | | | 26.25 | 6.96 | 882 | 17.5 | | translucent, no color |
| | | | 30 | 6.98 | 874 | 17.2 | | translucent, no color |
| | | | 33.75 | 6.97 | 920 | 17.2 | | translucent, no color |
| MW-DN-119S | 7/27/2006 | 1.8 | | | Well dry at 2 gallons | | | |
| | | | 3 | 6.97 | 793 | 18.9 | | cloudy, gray |
| | | | 4 | 6.92 | 831 | 18.4 | | cloudy, gray |
| | | | | | Well dry at 4 gallons | | | |
| | | | 6 | 6.91 | 835 | 18.3 | | cloudy, gray |
| MW-DN-119I | 7/27/2006 | 5 | | | Well dry at 6 gallons | | | |
| | | | 5 | 7.05 | 195 | 16.2 | | silty, gray |
| | | | 10 | 7.05 | 190 | 16.3 | | silty, gray |
| | | | 20 | 7.13 | 190 | 16.7 | | silty, gray |
| | | | 30 | 7.06 | 193 | 16.5 | | cloudy, gray, clearing |
| | | | 40 | 7.08 | 194 | 16.2 | | clear |
| | | | 50 | 7.08 | 195 | 16.3 | | clear |

TABLE 4.2

SUMMARY OF MONITORING WELL DEVELOPMENT PARAMETERS
FLEETWIDE ASSESSMENT
DRESDEN GENERATING STATION
MORRIS, ILLINOIS

| <i>Sample Location</i> | <i>Date</i> | <i>Well Volume (gallons)</i> | <i>Volume Purged (gallons)</i> | <i>pH (Std. Units) ⁽¹⁾</i> | <i>Conductivity (µS/cm) ⁽²⁾</i> | <i>Temperature (°C) ⁽³⁾</i> | <i>Turbidity (NTU) ⁽⁴⁾</i> | <i>Observations</i> |
|------------------------|-------------|------------------------------|--------------------------------|---------------------------------------|--|--|---------------------------------------|------------------------------|
| MW-DN-120S | 7/25/2006 | 5 | 5.0 | 6.43 | 1850 | 15.8 | | silty, opaque, brown |
| | | | 10.0 | 6.44 | 1950 | 14.6 | | silty, opaque, brown |
| | | | 15.0 | 6.43 | 1970 | 13.9 | | silty, opaque, brown |
| | | | 20.0 | 6.46 | 1960 | 14.5 | | silty, opaque, brown |
| | | | 25.0 | 6.49 | 1890 | 14.2 | | silty, opaque, brown |
| | | | | | Well dry at 30 gallons | | | |
| | | | 30.0 | 6.44 | 1960 | 14.5 | | translucent, light gray |
| | | | 35.0 | 6.44 | 1970 | 14.7 | | translucent, light gray |
| | | | 40.0 | 6.43 | 1970 | 14.3 | | translucent, light gray |
| | | | 45.0 | 6.43 | 1980 | 14.3 | | translucent, light gray |
| | | | 50.0 | 6.43 | 1950 | 15.5 | | translucent, light gray |
| MW-DN-120I | 7/25/2006 | 8.23 | 8.25 | 7.06 | 1190 | 15.5 | | turbid, gray |
| | | | 16.50 | 6.88 | 1210 | 14.7 | | opaque, light gray |
| | | | 24.75 | 6.81 | 1220 | 15.1 | | opaque, light gray |
| | | | 33.00 | 6.73 | 1230 | 14.4 | | opaque, light gray |
| | | | 41.25 | 6.61 | 1230 | 14.1 | | translucent, very light gray |
| | | | 49.50 | 6.73 | 1230 | 14.6 | | translucent, very light gray |
| | | | 57.75 | 6.71 | 1220 | 14.4 | | translucent, no color |
| | | | 66.00 | 6.73 | 1230 | 14.2 | | translucent, no color |
| | | | 74.25 | 6.74 | 1230 | 14.4 | | translucent, no color |
| | | | 82.50 | 6.72 | 1230 | 14.2 | | translucent, no color |
| | | | 90.75 | 6.71 | 1240 | 13.8 | | translucent, no color |

TABLE 4.2

**SUMMARY OF MONITORING WELL DEVELOPMENT PARAMETERS
FLEETWIDE ASSESSMENT
DRESDEN GENERATING STATION
MORRIS, ILLINOIS**

| Sample Location | Date | Well Volume (gallons) | Volume Purged (gallons) | pH (Std. Units) ⁽¹⁾ | Conductivity (μS/cm) ⁽²⁾ | Temperature (°C) ⁽³⁾ | Turbidity (NTU) ⁽⁴⁾ | Observations |
|------------------------|-------------|------------------------------|--|---------------------------------------|--|--|---------------------------------------|------------------------------|
| MW-DN-121S | 7/24/2006 | 3.1 | 3.0 | 6.67 | 1300 | 17.2 | | turbid, gray |
| | | | 6.0 | 6.61 | 1210 | 16.3 | | turbid, light gray |
| | | | 9.0 | 6.57 | 1220 | 16.2 | | translucent, very light gray |
| | | | 12.0 | 6.6 | 1220 | 15.8 | | translucent, very light gray |
| | | | 15.0 | 6.55 | 1250 | 16.1 | | translucent, no color |
| | | | 18.0 | 6.46 | 1230 | 16.1 | | translucent, no color |
| | | | 21 | 6.5 | 1230 | 15.9 | | translucent, no color |
| | | | 24 | 6.3 | 1260 | 16.7 | | translucent, no color |
| | | | 27 | 6.4 | 1250 | 15.6 | | translucent, no color |
| | | | 30 | 6.4 | 1240 | 15.6 | | translucent, no color |
| | | | 33 | 6.4 | 1250 | 15.9 | | translucent, no color |
| MW-DN-122S | 7/24/2006 | 0.9 | 1.0 | 7.79 | 960 | 18.1 | | very turbid, light brown |
| | | | 1.0 | Well dry 7.7 | 1000 | 19.0 | | very turbid, light brown |
| | | | 1.0 | Well dry 7.6 | 754 | 24.7 | | very turbid, light brown |
| | | | 1.0 | Well dry | | | | |
| MW-DN-122I | 7/24/2006 | 5.3 | 5.0 | 7.78 | 731 | 18.7 | | very turbid, gray |
| | | | 2.0 | Well dry 7.74 | 844 | 18.8 | | very turbid, gray |
| | | | 2.0 | Well dry | | | | |
| | | | 2.0 | *** | *** | *** | | |
| MW-DN-123S | 7/25/2006 | | Well was dry; therefore, it was not developed. | | | | | |

TABLE 4.2

**SUMMARY OF MONITORING WELL DEVELOPMENT PARAMETERS
FLEETWIDE ASSESSMENT
DRESDEN GENERATING STATION
MORRIS, ILLINOIS**

| Sample Location | Date | Well Volume (gallons) | Volume Purged (gallons) | pH (Std. Units) ⁽¹⁾ | Conductivity (μS/cm) ⁽²⁾ | Temperature (°C) ⁽³⁾ | Turbidity (NTU) ⁽⁴⁾ | Observations |
|----------------------------|-------------|--------------------------------------|--|---|---|--|---|-----------------------|
| MW-DN-123I | 7/25/2006 | 6.2 | 6.25 | 7.29 | 499 | 18.5 | | translucent, no color |
| | | | 12.50 | 7.16 | 498 | 17.2 | | opaque, light gray |
| | | | 18.75 | 7.06 | 475 | 16.4 | | opaque, light gray |
| | | | 25.00 | 7.01 | 474 | 17.0 | | translucent, no color |
| | | | 31.25 | 6.94 | 472 | 16.2 | | translucent, no color |
| | | | 37.50 | 6.94 | 470 | 16.0 | | translucent, no color |
| | | | 43.75 | 6.93 | 469 | 16.0 | | translucent, no color |
| | | | 50.00 | 6.88 | 466 | 16.0 | | translucent, no color |
| | | | 56.25 | 6.9 | 472 | 15.8 | | translucent, no color |
| | | | 62.50 | 6.85 | 468 | 16.4 | | translucent, no color |

Notes:

- (1) Std. Units - standard units
- (2) μ S/cm - microSiemens per centimeter
- (3) degrees Celsius
- (4) NTU - nephelometric turbidity units
- (5) Conductivity not available due to instrument calibration error. Removed minimum of 10 gallons or purge dry 3 times.

TABLE 4.3

**SUMMARY OF GROUNDWATER ELEVATIONS
FLEETWIDE ASSESSMENT
DRESDEN GENERATING STATION
MORRIS, ILLINOIS**

| Sample Location | Top of Casing Elevation (ft AMSL) ⁽¹⁾ | Surface Elevation | Total Depth (ft BTOC) ⁽²⁾ | 5/22/2006 | | 8/7/2006 | |
|--------------------|---|-------------------|---|-----------------------------|------------------------------------|-----------------------------|------------------------------------|
| | | | | Depth to Water (ft BTOC) | Groundwater Elevation (ft AMSL) | Depth to Water (ft BTOC) | Groundwater Elevation (ft AMSL) |
| Shallow Wells | | | | | | | |
| DSP-157S | 521.54 | 517.93 | NA | 5.47 | 516.07 | 5.70 | 515.84 |
| DSP-158S | 510.78 | 507.07 | NA | 4.27 | 506.51 | 5.66 | 505.12 |
| DSP-159S | 519.41 | 515.61 | 18.61 | NM | NM | 10.47 | 508.94 |
| MW-DN-101S | 520.30 | 517.10 | 23.90 | 14.03 | 506.27 | 14.42 | 505.88 |
| MW-DN-102S | 516.68 | 516.98 | 14.80 | 3.05 | 513.63 | 2.80 | 513.88 |
| MW-DN-103S | 522.12 | 519.53 | NA | 13.93 | 508.19 | 14.09 | 508.03 |
| MW-DN-104S | 516.61 | 516.60 | 20.05 | 6.73 | 509.88 | 7.66 | 508.95 |
| MW-DN-105S | 516.68 | 516.52 | 20.00 | 4.35 | 512.33 | 4.71 | 511.97 |
| MW-DN 106S | 516.42 | 513.88 | NA | 10.86 | 505.56 | 12.06 | 504.36 |
| MW-DN-107S | 518.23 | 516.63 | 6.31 | 4.88 | 513.35 | 4.28 | 513.95 |
| MW-DN-109S | 516.32 | 516.29 | 20.40 | 6.94 | 509.38 | 6.98 | 509.34 |
| MW-DN-110S | 517.28 | 517.16 | 20.43 | 6.21 | 511.07 | 6.22 | 511.06 |
| MW-DN-111S | 517.32 | 517.19 | 20.41 | 5.20 | 512.12 | 4.84 | 512.48 |
| MW-DN-112S | 516.35 | 516.72 | 12.00 | N/A | N/A | 2.24 | 514.11 |
| MW-DN-113S | 516.13 | 516.36 | 11.05 | N/A | N/A | 2.53 | 513.60 |
| MW-DN-114S | 516.31 | 516.76 | 42.00 | N/A | N/A | 8.61 | 507.70 |
| MW-DN-115S | 516.58 | 516.89 | 29.92 | N/A | N/A | 7.36 | 509.22 |
| MW-DN-116S | 517.11 | 517.40 | 27.41 | N/A | N/A | 12.83 | 504.28 |
| MW-DN-118S | 516.13 | 516.38 | 31.19 | N/A | N/A | 8.04 | 508.09 |
| MW-DN-119S | 516.16 | 516.52 | 20.73 | N/A | N/A | 9.69 | 506.47 |
| MW-DN-120S | 513.93 | 511.85 | 40.36 | N/A | N/A | 9.71 | 504.22 |
| MW-DN-121S | 518.63 | 515.93 | 26.85 | N/A | N/A | 7.32 | 511.31 |
| MW-DN-122S | 528.43 | 525.72 | 14.35 | N/A | N/A | 7.89 | 520.54 |
| MW-DN-123S | 515.03 | 512.98 | 20.89 | N/A | N/A | 20.18 | 494.85 |
| Intermediate Wells | | | | | | | |
| DSP-105 | 518.44 | 517.50 | 51.80 | 10.15 | 508.29 | 10.29 | 508.15 |
| DSP-106 | 518.44 | 517.42 | 51.00 | 9.37 | 509.07 | 9.55 | 508.89 |
| DSP-107 | 519.53 | 517.23 | 52.10 | 13.18 | 506.35 | 13.67 | 505.86 |
| DSP-108 | 519.49 | 517.37 | 52.10 | 12.58 | 506.91 | 13.32 | 506.17 |
| DSP-117 | 517.52 | 514.63 | >100.00 | 11.61 | 505.91 | 12.43 | 505.09 |
| DSP-118 | 519.83 | 517.21 | 51.90 | 7.53 | 512.30 | 7.94 | 511.89 |
| DSP-121 | 516.83 | 513.95 | 52.20 | 23.03 | 493.80 | 12.30 | 504.53 |
| DSP-122 | 519.67 | 516.76 | 37.37 | 10.43 | 509.24 | 10.94 | 508.73 |
| DSP-123 | 520.13 | 517.00 | 52.68 | 14.71 | 505.42 | 15.46 | 504.67 |
| DSP-124 | 519.81 | 517.08 | 37.33 | 6.57 | 513.24 | 6.17 | 513.64 |
| DSP-125 | 519.76 | 516.71 | 37.60 | 6.56 | 513.20 | 6.65 | 513.11 |
| DSP-126 | 524.90 | 522.39 | 55.70 | 16.10 | 508.80 | 16.26 | 508.64 |
| DSP-127 | 519.88 | 516.96 | 47.70 | 10.67 | 509.21 | 10.99 | 508.89 |
| DSP-147 | 523.37 | 520.89 | 52.00 | 15.88 | 507.49 | 22.27 | 501.10 |
| DSP-148 | 520.78 | 518.29 | 51.50 | 13.20 | 507.58 | 13.68 | 507.10 |
| DSP-149R | 518.29 | 515.80 | 52.42 | 12.96 | 505.33 | 13.65 | 504.64 |
| DSP-150 | 518.31 | 515.45 | 51.50 | 10.10 | 508.21 | 10.43 | 507.88 |
| DSP-151 | 519.17 | 516.43 | 51.90 | 7.26 | 511.91 | 7.56 | 511.61 |
| DSP-152 | 519.26 | 516.40 | 51.30 | 5.96 | 513.30 | 6.24 | 513.02 |

**SUMMARY OF GROUNDWATER ELEVATIONS
FLEETWIDE ASSESSMENT
DRESDEN GENERATING STATION
MORRIS, ILLINOIS**

| Sample Location | Top of Casing Elevation (ft AMSL) ⁽¹⁾ | Surface Elevation | Total Depth (ft BTOC) ⁽²⁾ | 5/22/2006 | | 8/7/2006 | |
|------------------------------|---|-------------------|---|-----------------------------|------------------------------------|-----------------------------|------------------------------------|
| | | | | Depth to Water (ft BTOC) | Groundwater Elevation (ft AMSL) | Depth to Water (ft BTOC) | Groundwater Elevation (ft AMSL) |
| Intermediate Wells (cont'd.) | | | | | | | |
| DSP-153 | 518.57 | 515.89 | NA | 11.05 | 507.52 | 11.04 | 507.53 |
| DSP-154 | 514.70 | 512.17 | 52.44 | 8.15 | 506.55 | 7.99 | 506.71 |
| DSP-155 | 518.53 | 515.47 | 42.20 | 11.74 | 506.79 | NM | NM |
| DSP-156 | 518.14 | 515.17 | 52.30 | 12.78 | 505.36 | 13.50 | 504.64 |
| DSP-157M | 521.80 | 517.81 | NA | 14.64 | 507.16 | 14.11 | 507.69 |
| DSP-158M | 510.64 | 507.32 | NA | 5.72 | 504.92 | 5.98 | 504.66 |
| DSP-159M | 519.37 | 515.57 | NA | 12.84 | 506.53 | 12.85 | 506.52 |
| MW-DN-101I | 520.48 | 517.08 | 53.90 | 15.71 | 504.77 | 16.36 | 504.12 |
| MW-DN-102I | 516.63 | 516.91 | 48.90 | 4.21 | 512.42 | 4.53 | 512.10 |
| MW-DN-103I | 522.72 | 520.13 | NA | 15.68 | 507.04 | 15.76 | 506.96 |
| MW-DN-108I | 517.14 | 517.49 | 50.20 | 12.51 | 504.63 | 12.86 | 504.28 |
| MW-DN-109I | 516.31 | 516.27 | 50.40 | 6.68 | 509.63 | 6.69 | 509.62 |
| MW-DN-110I | 517.41 | 517.34 | 51.50 | 8.90 | 508.51 | 9.09 | 508.32 |
| MW-DN-112I | 516.22 | 516.56 | 41.40 | N/A | N/A | 6.27 | 509.95 |
| MW-DN-113I | 516.13 | 516.33 | 47.35 | N/A | N/A | 3.39 | 512.74 |
| MW-DN-114I | 519.97 | 519.71 | 52.85 | N/A | N/A | 8.43 | 511.54 |
| MW-DN-115I | 516.63 | 516.88 | 55.70 | N/A | N/A | 7.17 | 509.46 |
| MW-DN-116I | 516.84 | 517.30 | 45.57 | N/A | N/A | 13.05 | 503.79 |
| MW-DN-117I | 518.22 | 517.75 | 47.28 | N/A | N/A | 13.52 | 504.70 |
| MW-DN-119I | 517.97 | 518.45 | 42.36 | N/A | N/A | 11.59 | 506.38 |
| MW-DN-120I | 513.89 | 511.59 | 60.55 | N/A | N/A | 9.75 | 504.14 |
| MW-DN-122I | 528.18 | 525.53 | 46.01 | N/A | N/A | 12.57 | 515.61 |
| MW-DN-123I | 515.65 | 512.71 | 46.40 | N/A | N/A | 7.92 | 507.73 |
| Deep Wells | | | | | | | |
| DSP-119 | 517.72 ⁽⁴⁾ | NA | NA | <150.00 | <367.72 | >100 | --- |
| DSP-157D | 521.86 | NA | NA | 139.30 | 382.56 | >100 | --- |
| DSP-158D | 510.39 | NA | NA | 138.18 | 372.21 | >100 | --- |
| DSP-159D | | NA | NA | | | >100 | --- |

Notes:

- (1) ft AMSL - feet above mean sea level
- (2) ft BTOC - feet below top of casing
- (3) NA - Surface elevation not available
- (4) This is top of casing. The riser was below the casing and not accessible

**SUMMARY OF SURFACE WATER ELEVATIONS
FLEETWIDE ASSESSMENT
DRESDEN GENERATING STATION
MORRIS, ILLINOIS**

| <i>Surface Water Location</i> | <i>Reference Elevation (ft AMSL) ⁽¹⁾</i> | <i>May 22, 2006</i> | | <i>August 7, 2006</i> | |
|-----------------------------------|---|--|--|--|--|
| | | <i>Depth to Water (ft below Reference)</i> | <i>Surface Water Elevation (ft AMSL)</i> | <i>Depth to Water (ft below Reference)</i> | <i>Surface Water Elevation (ft AMSL)</i> |
| SW-DN-101 | 514.14 | 9.73 | 504.41 | 10.24 | 503.90 |
| SW-DN-102 | 517.79 | 13.28 | 504.51 | 13.14 | 504.65 |
| SW-DN-103 | 519.58 | 14.99 | 504.59 | 16.17 | 503.41 |
| SW-DN-104 | 519.15 | NM | NM | 11.09 | 508.06 |
| SW-DN-105 | 519.24 | NM | NM | 12.36 | 506.88 |
| SW-DN-106 | 529.63 | 7.23 | 522.40 | 7.27 | 522.36 |
| SW-DN-107 | 529.25 | 7.24 | 522.01 | 7.09 | 522.16 |

Note:

(1) ft AMSL - feet above mean sea level

NM No depth-to-water measurement.

TABLE 4.5

**SUMMARY OF MONITORING WELL PURGING PARAMETERS
FLEETWIDE ASSESSMENT
DRESDEN GENERATING STATION
MORRIS, ILLINOIS**

| <i>Sample Location</i> | <i>Date</i> | <i>Time</i> | <i>Pumping Rate (mL/min) ⁽¹⁾</i> | <i>pH (Std. Units) ⁽²⁾</i> | <i>Temperature (°C) ⁽³⁾</i> | <i>Conductivity (µS/cm) ⁽⁴⁾</i> | <i>ORP ⁽⁵⁾ (mV) ⁽⁶⁾</i> | <i>DO ⁽⁷⁾ (mg/L) ⁽⁸⁾</i> | <i>Turbidity (NTU) ⁽⁹⁾</i> | <i>Volume Purged (gallons)</i> |
|----------------------------|-------------|-------------|---|---|--|--|---|--|---|--|
| DSP-105 | 05/23/2006 | 11:15 | 250 | 7.35 | 18.98 | 1039 | -30.1 | 5.10 | 2.37 | NM |
| | | 11:20 | 250 | 7.29 | 18.88 | 1037 | -30 | 4.52 | 2.02 | NM |
| | | 11:25 | 250 | 7.31 | 18.61 | 1039 | -30 | 4.79 | 2.16 | NM |
| DSP-106 | 05/23/2006 | 12:15 | 250 | 7.51 | 17.36 | 795 | -26.1 | 5.08 | 1.92 | NM |
| | | 12:20 | 250 | 7.49 | 17.37 | 794 | -25.7 | 4.99 | 1.49 | NM |
| | | 12:25 | 250 | 7.49 | 17.33 | 794 | -25.7 | 4.97 | 1.29 | NM |
| DSP-107 | 05/23/2006 | 13:30 | 150 | 7.19 | 16.57 | 830 | -30.7 | 0.65 | 3.20 | NM |
| | | 13:35 | 150 | 7.16 | 16.58 | 831 | -30.7 | 0.49 | 2.52 | NM |
| | | 13:40 | 150 | 7.15 | 16.83 | 830 | -30.5 | 0.40 | 2.36 | NM |
| DSP-108 | 05/24/2006 | 15:30 | 60 | 7.21 | 19.64 | 872 | -22.6 | 1.97 | 3.71 | NM |
| | | 15:35 | 60 | 7.21 | 20.16 | 873 | -22.5 | 1.77 | 4.10 | NM |
| | | 15:40 | 60 | 7.19 | 20.49 | 876 | -22.3 | 1.96 | 2.38 | NM |
| DSP-117 | 05/26/2006 | 10:45 | 270 | 6.75 | 13.10 | 1677 | 46 | 2.41 | 2.50 | 0.21 |
| | | 10:50 | 270 | 6.75 | 13.13 | 1684 | 41 | 2.13 | 2.00 | 0.36 |
| | | 10:55 | 270 | 6.76 | 13.05 | 1684 | 40 | 1.95 | 2.20 | 0.36 |
| DSP-118 | 05/25/2006 | 10:05 | NM | 7.83 | 15.26 | 597 | -18.9 | 1.83 | 3.64 | NM |
| | | 10:10 | NM | 7.82 | 15.52 | 598 | -20.2 | 1.87 | 3.07 | NM |
| | | 10:15 | NM | 7.81 | 15.35 | 597 | -23.7 | 1.50 | 3.27 | NM |
| DSP-121 | 05/26/2006 | 15:10 | 190 | 7.22 | 15.84 | 1067 | -361 | 2.11 | 0.60 | 0.25 |
| | | 15:15 | 190 | 7.20 | 16.14 | 1070 | -412 | 1.97 | 0.70 | 0.25 |
| | | 15:20 | 190 | 7.18 | 16.18 | 1072 | -203 | 1.59 | 0.80 | 0.25 |
| DSP-122 | 05/25/2006 | 16:45 | 100 | 7.23 | 22.94 | 1160 | -62.4 | 1.38 | 14.80 | NM |
| | | 16:50 | 100 | 7.20 | 23.48 | 1162 | -71.4 | 1.28 | 9.58 | NM |
| | | 16:55 | 100 | 7.18 | 23.50 | 1160 | -75.9 | 1.10 | 8.63 | NM |
| DSP-123 | 05/26/2006 | 9:55 | 100 | 7.29 | 17.21 | 835 | -9.2 | 0.85 | 26.40 | NM |
| | | 9:55 | 100 | 7.27 | 17.52 | 833 | -9.3 | 0.60 | 24.30 | NM |
| | | 9:55 | 100 | 7.27 | 17.73 | 833 | -10.3 | 0.66 | 26.30 | NM |
| DSP-124 | 05/26/2006 | 11:45 | 200 | 6.89 | 18.47 | 1265 | -16.5 | 1.84 | 2.49 | NM |
| | | 11:50 | 200 | 6.86 | 18.73 | 1263 | -17.3 | 1.73 | 1.94 | NM |
| | | 11:55 | 200 | 6.85 | 18.81 | 1263 | -18.6 | 1.38 | 2.19 | NM |

TABLE 4.5

**SUMMARY OF MONITORING WELL PURGING PARAMETERS
FLEETWIDE ASSESSMENT
DRESDEN GENERATING STATION
MORRIS, ILLINOIS**

| <i>Sample Location</i> | <i>Date</i> | <i>Time</i> | <i>Pumping Rate (mL/min) ⁽¹⁾</i> | <i>pH (Std. Units) ⁽²⁾</i> | <i>Temperature (°C) ⁽³⁾</i> | <i>Conductivity (µS/cm) ⁽⁴⁾</i> | <i>ORP ⁽⁵⁾ (mV) ⁽⁶⁾</i> | <i>DO ⁽⁷⁾ (mg/L) ⁽⁸⁾</i> | <i>Turbidity (NTU) ⁽⁹⁾</i> | <i>Volume Purged (gallons)</i> |
|----------------------------|-------------|-------------|---|---|--|--|---|--|---|--|
| DSP-125 | 06/01/2006 | 13:15 | 100 | 6.81 | 19.05 | 3144 | -36.4 | 0.49 | 9.93 | NM |
| | | 13:20 | 100 | 6.80 | 19.08 | 3141 | -37.6 | 0.40 | 9.53 | NM |
| | | 13:25 | 100 | 6.79 | 19.03 | 3142 | -38.6 | 0.38 | 8.09 | NM |
| DSP-126 | 05/24/2006 | 11:20 | 150 | 7.17 | 15.18 | 930 | -173 | 1.28 | 6.00 | 0.20 |
| | | 11:25 | 150 | 7.16 | 15.22 | 930 | -179.5 | 1.18 | 5.00 | 0.20 |
| | | 11:30 | 150 | 7.16 | 15.25 | 930 | -177.3 | 1.17 | 4.80 | 0.20 |
| DSP-127 | 05/30/2006 | 10:30 | 100 | 7.81 | 18.71 | 1409 | -65.6 | 0.69 | 11.90 | NM |
| | | 10:35 | 100 | 7.83 | 18.75 | 1400 | -66.8 | 0.66 | 11.10 | NM |
| | | 10:40 | 100 | 7.85 | 18.78 | 1399 | -67.2 | 0.71 | 10.90 | NM |
| DSP-147 | 05/30/2006 | 9:25 | 130 | 7.99 | 18.02 | 1222 | 373 | 2.15 | 1.20 | 0.17 |
| | | 9:30 | 130 | 8.02 | 17.72 | 1223 | 344 | 1.89 | 1.40 | 0.17 |
| | | 9:35 | 130 | 8.05 | 18.60 | 1223 | 363 | 1.67 | 1.40 | 0.17 |
| DSP-148 | 05/30/2006 | 13:30 | 113 | 6.82 | 13.80 | 1510 | -253 | 2.15 | 11.30 | 0.15 |
| | | 13:35 | 113 | 6.84 | 14.02 | 1523 | -259 | 1.89 | 8.93 | 0.15 |
| | | 13:40 | 113 | 6.80 | 13.96 | 1527 | -266 | 1.67 | 8.23 | 0.15 |
| DSP-149R | 05/31/2006 | 9:45 | 88 | 9.88 | 19.01 | 741 | -62 | 1.50 | 11.40 | 0.12 |
| | | 9:50 | 88 | 9.89 | 18.96 | 742 | -21 | 1.30 | 9.50 | 0.12 |
| | | 9:55 | 88 | 9.89 | 18.65 | 740 | -2.7 | 1.38 | 8.50 | 0.12 |
| DSP-150 | 05/24/2006 | 12:15 | 200 | 7.13 | 20.99 | 978 | -10.7 | 1.14 | 10.50 | NM |
| | | 12:20 | 200 | 7.13 | 20.99 | 979 | -10.1 | 1.05 | 9.80 | NM |
| | | 12:25 | 200 | 7.13 | 21.27 | 981 | -9.7 | 0.88 | 9.40 | NM |
| DSP-151 | 05/24/2006 | 14:00 | 60 | 7.85 | 19.10 | 639 | -48.6 | 2.22 | 4.11 | NM |
| | | 14:05 | 60 | 7.85 | 19.69 | 638 | -59 | 2.05 | 4.28 | NM |
| | | 14:10 | 60 | 7.85 | 19.71 | 640 | -68.3 | 2.00 | 4.61 | NM |
| DSP-152 | 05/23/2006 | 11:00 | 200 | 7.12 | 14.64 | 1127 | -8.5 | 2.67 | 2.00 | 0.26 |
| | | 11:05 | 200 | 7.11 | 14.79 | 1116 | -8.2 | 2.50 | 0.65 | 0.26 |
| | | 11:10 | 200 | 7.13 | 15.45 | 1116 | -17.7 | 2.44 | 2.35 | 0.26 |
| DSP-153 | 05/24/2006 | 14:40 | 200 | 9.54 | 20.13 | 747 | 969 | 1.32 | 4.00 | 0.26 |
| | | 14:45 | 200 | 9.47 | 20.17 | 748 | -169 | 0.94 | 4.00 | 0.26 |
| | | 14:50 | 200 | 9.37 | 19.72 | 750 | -90 | 0.83 | 4.30 | 0.26 |

TABLE 4.5

**SUMMARY OF MONITORING WELL PURGING PARAMETERS
FLEETWIDE ASSESSMENT
DRESDEN GENERATING STATION
MORRIS, ILLINOIS**

| <i>Sample Location</i> | <i>Date</i> | <i>Time</i> | <i>Pumping Rate (mL/min) ⁽¹⁾</i> | <i>pH (Std. Units) ⁽²⁾</i> | <i>Temperature (°C) ⁽³⁾</i> | <i>Conductivity (µS/cm) ⁽⁴⁾</i> | <i>ORP ⁽⁵⁾ (mV) ⁽⁶⁾</i> | <i>DO ⁽⁷⁾ (mg/L) ⁽⁸⁾</i> | <i>Turbidity (NTU) ⁽⁹⁾</i> | <i>Volume Purged (gallons)</i> |
|----------------------------|-------------|-------------|---|---|--|--|---|--|---|--|
| DSP-154 | 05/24/2006 | 17:00 | 500 | 8.19 | 13.68 | 765 | -120 | 2.19 | 2.60 | 0.66 |
| | | 17:05 | 500 | 8.19 | 13.75 | 767 | 709 | 1.73 | 2.20 | 0.66 |
| | | 17:10 | 500 | 8.20 | 14.20 | 765 | -289 | 1.51 | 2.60 | 0.66 |
| DSP-155 | 05/25/2006 | 14:50 | 250 | 7.62 | 22.32 | 783 | -21.1 | 2.29 | 2.51 | NM |
| | | 14:55 | 250 | 7.60 | 22.28 | 783 | -22.4 | 2.12 | 1.96 | NM |
| | | 15:00 | 250 | 7.57 | 22.50 | 783 | -23.6 | 1.84 | 2.02 | NM |
| DSP-156 | 05/30/2006 | 15:35 | 76 | 7.92 | 21.02 | 834 | -9.9 | 1.09 | 18.20 | 0.10 |
| | | 15:40 | 76 | 7.92 | 21.27 | 837 | -15.2 | 0.89 | 17.00 | 0.10 |
| | | 15:45 | 76 | 7.92 | 21.58 | 833 | -16.4 | 0.76 | 15.40 | 0.10 |
| DSP-157S | 05/23/2006 | 15:10 | 200 | 6.65 | 15.00 | 9173 | -113.3 | 0.44 | 9.50 | 0.26 |
| | | 15:15 | 250 | 6.66 | 15.38 | 9176 | -60.1 | 0.36 | 6.40 | 0.40 |
| | | 15:20 | 250 | 6.65 | 14.85 | 9100 | -281.4 | 0.36 | 7.50 | 0.40 |
| DSP-157M | 05/23/2006 | 13:25 | 200 | 7.55 | 15.56 | 1578 | -179.7 | 1.08 | 16.20 | 0.26 |
| | | 13:30 | 200 | 7.55 | 15.57 | 1587 | -165 | 0.94 | 15.10 | 0.26 |
| | | 13:35 | 200 | 7.55 | 15.82 | 1587 | -162 | 0.82 | 13.70 | 0.26 |
| DSP-158S | 05/25/2006 | 10:55 | 250-300 | 7.16 | 14.11 | 797 | -317 | 2.20 | 10.40 | 0.33 |
| | | 11:00 | 250-300 | 7.14 | 14.30 | 796 | -290 | 1.78 | 10.20 | 0.33 |
| | | 11:05 | 250-300 | 7.13 | 14.74 | 803 | -280 | 1.61 | 10.20 | 0.33 |
| DSP-158M | 05/25/2006 | 9:15 | 300 | 7.54 | 15.26 | 595 | -552 | 1.27 | 3.00 | 0.40 |
| | | 9:20 | 300 | 7.54 | 14.94 | 594 | -476 | 1.12 | 2.30 | 0.40 |
| | | 9:25 | 300 | 7.55 | 15.13 | 594 | -617 | 0.99 | 3.60 | 0.40 |
| DSP-159S | 05/25/2006 | 16:00 | 300 | 6.81 | 14.96 | 2007 | -230 | 7.70 | 4.90 | 0.40 |
| | | 16:05 | 300 | 6.82 | 15.30 | 2032 | -105 | 2.55 | 6.20 | 0.40 |
| | | 16:10 | 300 | 6.83 | 15.21 | 2160 | -96 | 1.76 | 14.30 | 0.40 |
| DSP-159M | 05/25/2006 | 14:30 | <250 | 7.43 | 18.10 | 707 | -328 | 1.76 | 6.30 | <0.33 |
| | | 14:35 | <250 | 7.42 | 18.28 | 706 | -305 | 1.43 | 4.80 | <0.33 |
| | | 14:40 | <250 | 7.42 | 18.22 | 705 | -315 | 1.17 | 3.10 | <0.33 |
| MW-DN-101S | 05/26/2006 | 13:55 | 75 | 7.03 | 18.63 | 1069 | -78.9 | 1.46 | 57.40 | NM |
| | | 14:00 | 75 | 7.02 | 19.15 | 1069 | -82.6 | 1.41 | 58.60 | NM |
| | | 14:05 | 75 | 7.02 | 19.22 | 1069 | -85.6 | 1.41 | 55.60 | NM |

TABLE 4.5

SUMMARY OF MONITORING WELL PURGING PARAMETERS
FLEETWIDE ASSESSMENT
DRESDEN GENERATING STATION
MORRIS, ILLINOIS

| <i>Sample Location</i> | <i>Date</i> | <i>Time</i> | <i>Pumping Rate (mL/min) ⁽¹⁾</i> | <i>pH (Std. Units) ⁽²⁾</i> | <i>Temperature (°C) ⁽³⁾</i> | <i>Conductivity (µS/cm) ⁽⁴⁾</i> | <i>ORP ⁽⁵⁾ (mV) ⁽⁶⁾</i> | <i>DO ⁽⁷⁾ (mg/L) ⁽⁸⁾</i> | <i>Turbidity (NTU) ⁽⁹⁾</i> | <i>Volume Purged (gallons)</i> |
|----------------------------|-------------|-------------|---|---|--|--|---|--|---|--|
| MW-DN-101I | 05/26/2006 | 15:20 | 100 | 7.05 | 18.82 | 1605 | -22.6 | 0.75 | 6.41 | NM |
| | | 15:25 | 100 | 7.03 | 18.81 | 1609 | -22.6 | 0.65 | 4.40 | NM |
| | | 15:30 | 100 | 7.04 | 19.25 | 1613 | -22.6 | 0.59 | 3.22 | NM |
| MW-DN-102S | 06/01/2006 | 11:20 | 100 | 6.54 | 19.17 | 5814 | -27.5 | 0.32 | 47.30 | NM |
| | | 11:25 | 100 | 6.54 | 19.19 | 5812 | -28.7 | 0.30 | 49.40 | NM |
| | | 11:30 | 100 | 6.53 | 19.19 | 8811 | -29.6 | 0.28 | 51.60 | NM |
| MW-DN-102I | 06/01/2006 | 8:30 | 100 | 8.25 | 18.76 | 1952 | -11.7 | 0.34 | 101.00 | NM |
| | | 8:30 | 100 | 8.25 | 18.74 | 1948 | -11.9 | 0.31 | 82.60 | NM |
| | | 8:30 | 100 | 8.24 | 18.78 | 1951 | -11.8 | 0.30 | 81.70 | NM |
| MW-DN-103S | 05/26/2006 | 9:20 | 180 | 6.58 | 14.66 | 1527 | 66.9 | 7.08 | 2.70 | 0.24 |
| | | 9:25 | 180 | 6.59 | 15.09 | 1533 | 79.2 | 7.07 | 2.30 | 0.24 |
| | | 9:30 | 180 | 6.59 | 15.25 | 1538 | -82.9 | 6.70 | 1.90 | 0.24 |
| MW-DN-103I | 05/26/2006 | 10:55 | 180 | 7.01 | 15.36 | 1292 | -635 | 8.29 | 3.00 | 0.92 |
| | | 11:00 | 180 | 7.00 | 15.00 | 1286 | -873 | 3.54 | 3.30 | 0.46 |
| | | 11:05 | 180 | 6.99 | 14.94 | 1281 | -919 | 2.57 | 2.50 | 0.46 |
| MW-DN-104S | 05/30/2006 | 16:15 | 100 | 6.46 | 23.15 | 2947 | -14.7 | 1.70 | 30.70 | NM |
| | | 16:20 | 100 | 6.44 | 23.12 | 2946 | -14.2 | 1.68 | 31.70 | NM |
| | | 16:25 | 100 | 6.44 | 23.12 | 2946 | -14.1 | 1.58 | 24.30 | NM |
| MW-DN-105S | 06/01/2006 | 13:15 | 100 | 7.05 | 16.06 | 1430 | -21.3 | 1.61 | 8.10 | NM |
| | | 13:20 | 100 | 7.03 | 16.06 | 1428 | -21.1 | 1.64 | 7.79 | NM |
| | | 13:25 | 100 | 7.01 | 16.04 | 1424 | -20.4 | 1.66 | 7.94 | NM |
| MW-DN-106S | 05/26/2006 | 13:40 | 250 | 6.74 | 13.66 | 1143 | 181.7 | 7.59 | 0.60 | 1.98 |
| | | 13:45 | 250 | 6.73 | 13.64 | 1144 | 155.7 | 4.96 | 0.70 | 0.33 |
| | | 13:50 | 250 | 6.73 | 13.73 | 1141 | 136.4 | 3.31 | 0.70 | 0.33 |
| MW-DN-107S | 05/31/2006 | 14:25 | 100 | 7.74 | 41.29 | 426 | -54.1 | 0.48 | 21.70 | NM |
| | | 14:25 | 100 | 7.76 | 41.28 | 428 | -54 | 0.35 | 11.00 | NM |
| | | 14:25 | 100 | 7.75 | 41.28 | 429 | -53.5 | 0.33 | 7.46 | NM |
| MW-DN-108I | 05/26/2006 | 16:50 | 100 | 7.43 | 16.28 | 1614 | -65.3 | 0.43 | 15.90 | NM |
| | | 16:55 | 100 | 7.40 | 16.11 | 1618 | -68.6 | 0.44 | 12.30 | NM |
| | | 17:00 | 100 | 7.41 | 16.11 | 1615 | -71.6 | 0.43 | NM | NM |

TABLE 4.5

SUMMARY OF MONITORING WELL PURGING PARAMETERS
FLEETWIDE ASSESSMENT
DRESDEN GENERATING STATION
MORRIS, ILLINOIS

| <i>Sample Location</i> | <i>Date</i> | <i>Time</i> | <i>Pumping Rate (mL/min) ⁽¹⁾</i> | <i>pH (Std. Units) ⁽²⁾</i> | <i>Temperature (°C) ⁽³⁾</i> | <i>Conductivity (µS/cm) ⁽⁴⁾</i> | <i>ORP ⁽⁵⁾ (mV) ⁽⁶⁾</i> | <i>DO ⁽⁷⁾ (mg/L) ⁽⁸⁾</i> | <i>Turbidity (NTU) ⁽⁹⁾</i> | <i>Volume Purged (gallons)</i> |
|------------------------|-------------|-------------|---|---------------------------------------|--|--|---|--|---------------------------------------|--------------------------------|
| MW-DN-108I | 08/14/2006 | 9:20 | 200 | 7.31 | 19.04 | 1570 | 63 | 1.23 | 16.2 | NM |
| | | 9:25 | 200 | 7.09 | 18.47 | 1570 | 63 | 0.85 | 3.47 | NM |
| | | 9:30 | 200 | 7.07 | 18.70 | 1570 | 62 | 0.68 | 2.16 | NM |
| | | 9:35 | 200 | 7.12 | 18.64 | 1560 | 60 | 0.67 | 2.07 | NM |
| | | 9:40 | 200 | 7.12 | 18.59 | 1560 | 60 | 0.65 | 1.96 | NM |
| MW-DN-109S | 05/31/2006 | 11:20 | 100 | 7.16 | 15.83 | 1702 | -25.1 | 0.45 | 9.69 | NM |
| | | 11:25 | 100 | 7.15 | 15.88 | 1698 | -27.4 | 0.42 | 6.30 | NM |
| | | 11:30 | 100 | 7.15 | 15.89 | 1696 | -28.2 | 0.37 | 6.03 | NM |
| MW-DN-109I | 05/31/2006 | 9:10 | 100 | 7.29 | 17.11 | 1274 | -9.7 | 1.81 | 11.60 | NM |
| | | 9:15 | 100 | 7.29 | 17.17 | 1275 | -19.7 | 1.76 | 6.17 | NM |
| | | 9:20 | 100 | 7.29 | 17.17 | 1272 | -19.7 | 1.57 | 4.78 | NM |
| MW-DN-110S | 05/30/2006 | 13:25 | 100 | 6.94 | 17.58 | 2162 | -45.4 | 0.34 | 37.2 | NM |
| | | 13:30 | 100 | 6.97 | 17.61 | 2157 | -47 | 0.33 | 20.0 | NM |
| | | 13:35 | 100 | 6.95 | 17.64 | 2154 | -48.2 | 0.33 | 11.8 | NM |
| MW-DN-110I | 05/30/2006 | 14:15 | NM | 7.27 | 18.13 | 1406 | -23.2 | 1.14 | 15.9 | NM |
| | | 14:20 | NM | 7.24 | 18.17 | 1392 | -24.1 | 1.16 | 13.0 | NM |
| | | 14:25 | NM | 7.21 | 18.19 | 1386 | -24.9 | 1.19 | 12.1 | NM |
| MW-DN-111S | 05/31/2006 | 11:20 | 100 | 7.34 | 19.00 | 567 | -86.1 | 0.21 | 29.8 | NM |
| | | 11:25 | 100 | 7.33 | 18.97 | 567 | -89.4 | 0.19 | 19.0 | NM |
| | | 11:30 | 100 | 7.31 | 18.96 | 565 | -91.2 | 0.17 | 18.1 | NM |
| MW-DN-112S | 08/10/2006 | 10:15 | 200 | 7.11 | 21.49 | 3550 | 66 | 0.81 | 37.0 | NM |
| | | 10:20 | 200 | 7.14 | 21.78 | 3730 | 65 | 0.65 | 14.4 | NM |
| | | 10:25 | 200 | 7.17 | 21.92 | 3820 | 61 | 0.55 | 12.4 | NM |
| | | 10:30 | 200 | 7.22 | 21.95 | 3770 | 59 | 0.46 | 13.0 | NM |
| | | 10:35 | 200 | 7.13 | 22.00 | 3770 | 57 | 0.43 | 11.6 | NM |
| | | 10:40 | 200 | 7.14 | 21.98 | 3780 | 53 | 0.39 | 37.3 | NM |
| | | 10:45 | 200 | 7.12 | 21.95 | 3790 | 50 | 0.48 | 54.5 | NM |
| | | 10:50 | 200 | 7.20 | 21.87 | 3800 | 49 | 0.40 | 24.7 | NM |
| | | 10:55 | 200 | 7.24 | 21.83 | 3840 | 48 | 0.39 | 25.4 | NM |
| | | 11:00 | 200 | 7.23 | 21.84 | 3830 | 48 | 0.40 | 25.7 | NM |

TABLE 4.5

**SUMMARY OF MONITORING WELL PURGING PARAMETERS
FLEETWIDE ASSESSMENT
DRESDEN GENERATING STATION
MORRIS, ILLINOIS**

| <i>Sample Location</i> | <i>Date</i> | <i>Time</i> | <i>Pumping Rate (mL/min) ⁽¹⁾</i> | <i>pH (Std. Units) ⁽²⁾</i> | <i>Temperature (°C) ⁽³⁾</i> | <i>Conductivity (μS/cm) ⁽⁴⁾</i> | <i>ORP ⁽⁵⁾ (mV) ⁽⁶⁾</i> | <i>DO ⁽⁷⁾ (mg/L) ⁽⁸⁾</i> | <i>Turbidity (NTU) ⁽⁹⁾</i> | <i>Volume Purged (gallons)</i> |
|----------------------------|-------------|-------------|---|---|--|--|---|--|---|--|
| MW-DN-112I | 08/10/2006 | 10:25 | 150 | 7.59 | 20.83 | 1750 | 323 | 6.45 | 175 | NM |
| | | 10:30 | 150 | 7.37 | 19.05 | 1740 | 325 | 0.92 | 112 | NM |
| | | 10:35 | 150 | 7.19 | 19.74 | 1530 | 325 | 0.59 | 96.1 | NM |
| | | 10:40 | 150 | 7.15 | 19.67 | 1630 | 323 | 0.52 | 181 | NM |
| | | 10:45 | 150 | 7.17 | 19.83 | 1680 | 316 | 0.48 | 274 | NM |
| | | 10:50 | 150 | 7.14 | 19.89 | 1560 | 312 | 0.45 | 464 | NM |
| | | 10:55 | 150 | 7.17 | 19.79 | 1730 | 309 | 0.47 | 458 | NM |
| | | 11:00 | 150 | 7.17 | 19.75 | 1640 | 305 | 0.49 | 629 | NM |
| | | 11:05 | 150 | 7.16 | 19.68 | 1590 | 299 | 0.16 | >1000 | NM |
| | | 11:10 | 150 | 7.16 | 19.71 | 1590 | 300 | 0.60 | >1000 | NM |
| | | 11:15 | 150 | 7.16 | 19.77 | 1580 | 299 | 0.61 | >1000 | NM |
| | | 11:20 | 150 | 7.27 | 19.02 | 1560 | 253 | 0.88 | 935 | NM |
| | | 11:25 | 150 | 7.22 | 19.26 | 1530 | 257 | 0.82 | >1000 | NM |
| | | 11:30 | 150 | 7.18 | 19.55 | 1490 | 262 | 0.80 | 642 | NM |
| | | 11:35 | 150 | 7.16 | 19.46 | 1470 | 265 | 0.79 | 618 | NM |
| | | 11:40 | 150 | 7.15 | 19.39 | 1460 | 267 | 0.78 | 581 | NM |
| | | 11:45 | 150 | 7.13 | 19.24 | 1426 | 269 | 0.81 | 545 | NM |
| | | 11:50 | 150 | 7.14 | 19.09 | 1418 | 270 | 0.84 | 434 | NM |
| | | 11:55 | 150 | 7.13 | 19.13 | 1414 | 271 | 0.82 | 468 | NM |
| | | 12:00 | 150 | 7.13 | 19.10 | 1415 | 270 | 0.82 | 465 | NM |
| MW-DN-113S | 08/09/2006 | 12:05 | 150 | 7.14 | 19.09 | 1413 | 271 | 0.81 | 460 | NM |
| | | 9:40 | 100 | 7.43 | 26.70 | 1326 | 79 | 2.34 | 15.70 | NM |
| | | 9:45 | 100 | 7.43 | 26.99 | 1327 | 78 | 2.43 | 6.86 | NM |
| | | 9:50 | 100 | 7.38 | 27.34 | 1325 | 79 | 2.66 | 3.24 | NM |
| MW-DN-113I | 08/09/2006 | 9:55 | 100 | 7.41 | 27.39 | 1328 | 78 | 2.67 | 4.17 | NM |
| | | 10:50 | 200 | 7.21 | 22.80 | 1710 | 289 | 2.53 | 27.5 | NM |
| | | 10:55 | 200 | 7.16 | 21.92 | 1670 | 294 | 2.54 | 21.1 | NM |
| | | 11:00 | 150 | 7.15 | 21.50 | 1700 | 297 | 2.37 | 16.0 | NM |
| | | 11:05 | 150 | 7.15 | 21.85 | 1750 | 299 | 2.19 | 16.3 | NM |
| | | 11:10 | 150 | 7.15 | 21.58 | 1760 | 301 | 2.02 | 15.9 | NM |
| | | 11:15 | 150 | 7.15 | 21.23 | 1800 | 302 | 1.98 | 15.8 | NM |
| | | 11:20 | 150 | 7.16 | 21.19 | 1820 | 302 | 1.99 | 16.0 | NM |

TABLE 4.5

SUMMARY OF MONITORING WELL PURGING PARAMETERS
FLEETWIDE ASSESSMENT
DRESDEN GENERATING STATION
MORRIS, ILLINOIS

| <i>Sample Location</i> | <i>Date</i> | <i>Time</i> | <i>Pumping Rate (mL/min) ⁽¹⁾</i> | <i>pH (Std. Units) ⁽²⁾</i> | <i>Temperature (°C) ⁽³⁾</i> | <i>Conductivity (μS/cm) ⁽⁴⁾</i> | <i>ORP ⁽⁵⁾ (mV) ⁽⁶⁾</i> | <i>DO ⁽⁷⁾ (mg/L) ⁽⁸⁾</i> | <i>Turbidity (NTU) ⁽⁹⁾</i> | <i>Volume Purged (gallons)</i> |
|----------------------------|-------------|-------------|---|---|--|--|---|--|---|--|
| MW-DN-114S | 08/11/2006 | 12:40 | 190 | 7.32 | 22.57 | 1209 | 46 | 1.17 | # 31 | NM |
| | | 12:45 | 190 | 7.26 | 22.53 | 1297 | 46 | 0.88 | # 20.8 | NM |
| | | 12:50 | 190 | 7.13 | 22.46 | 1313 | 44 | 0.72 | # 18.0 | NM |
| | | 12:55 | 190 | 7.11 | 22.38 | 1313 | 42 | 0.66 | 14.9 | NM |
| | | 13:00 | 190 | 7.10 | 22.58 | 1310 | 40 | 0.61 | 14.2 | NM |
| | | 13:05 | 190 | 7.08 | 22.39 | 1309 | 39 | 0.60 | 13.8 | NM |
| | | 13:10 | 190 | 7.07 | 22.41 | 1309 | 40 | 0.59 | 14 | NM |
| MW-DN-114I | 08/14/2006 | 12:25 | 200 | 7.02 | 20.93 | 2110 | 67 | 1.14 | 22 | NM |
| | | 12:30 | 380 | 6.99 | 19.48 | 2070 | 67 | 0.71 | 15.9 | NM |
| | | 12:35 | 380 | 6.87 | 19.18 | 2100 | 67 | 0.50 | 5.76 | NM |
| | | 12:40 | 380 | 6.90 | 19.17 | 2100 | 67 | 0.49 | 2.75 | NM |
| | | 12:45 | 380 | 6.87 | 19.14 | 2110 | 68 | 0.47 | 2.21 | NM |
| | | 12:50 | 380 | 6.86 | 19.16 | 2110 | 68 | 0.46 | 1.98 | NM |
| MW-DN-115S | 08/14/2006 | 10:45 | 200 | 6.63 | 22.36 | 1342 | 64 | 1.01 | 13.9 | NM |
| | | 10:50 | 200 | 6.91 | 22.48 | 1342 | 65 | 0.98 | 14.6 | NM |
| | | 10:55 | 200 | 6.89 | 22.51 | 1345 | 66 | 1.02 | 14 | NM |
| | | 11:00 | 200 | 6.84 | 22.61 | 1347 | 66 | 1.06 | 7.2 | NM |
| | | 11:05 | 200 | 6.82 | 22.51 | 1346 | 66 | 1.07 | 3.65 | NM |
| MW-DN-115I | 08/11/2006 | 10:20 | 200 | 7.23 | 21.94 | 1475 | 62 | 1.07 | 447 | NM |
| | | 10:25 | 200 | 7.12 | 22.03 | 1407 | 60 | 0.75 | 137 | NM |
| | | 10:30 | 200 | 7.21 | 22.12 | 1362 | 54 | 0.59 | 56.1 | NM |
| | | 10:35 | 200 | 7.22 | 22.16 | 1340 | 50 | 0.53 | 42.8 | NM |
| | | 10:40 | 200 | 7.19 | 22.17 | 1335 | 44 | 0.46 | 43.5 | NM |
| | | 10:45 | 200 | 7.18 | 22.28 | 1332 | 30 | 0.39 | 37.5 | NM |
| | | 10:50 | 200 | 7.25 | 22.40 | 1334 | 24 | 0.38 | 28.3 | NM |
| | | 10:55 | 200 | 7.30 | 22.73 | 1338 | 6 | 0.34 | 23.3 | NM |
| | | 11:00 | 200 | 7.36 | 22.80 | 1339 | -4 | 0.32 | 20.6 | NM |
| | | 11:05 | 200 | 7.36 | 22.99 | 1339 | -11 | 0.33 | 17.2 | NM |
| | | 11:10 | 200 | 7.32 | 22.74 | 1341 | -17 | 0.32 | 22.7 | NM |
| | | 11:15 | 200 | 7.34 | 22.57 | 1333 | -23 | 0.32 | 13.6 | NM |
| | | 11:20 | 200 | 7.34 | 22.52 | 1328 | -25 | 0.33 | 12.8 | NM |
| | | 11:25 | 200 | 7.33 | 22.49 | 1327 | -26 | 0.32 | 12.4 | NM |

TABLE 4.5

SUMMARY OF MONITORING WELL PURGING PARAMETERS
FLEETWIDE ASSESSMENT
DRESDEN GENERATING STATION
MORRIS, ILLINOIS

| <i>Sample Location</i> | <i>Date</i> | <i>Time</i> | <i>Pumping Rate (mL/min) ⁽¹⁾</i> | <i>pH (Std. Units) ⁽²⁾</i> | <i>Temperature (°C) ⁽³⁾</i> | <i>Conductivity (µS/cm) ⁽⁴⁾</i> | <i>ORP ⁽⁵⁾ (mV) ⁽⁶⁾</i> | <i>DO ⁽⁷⁾ (mg/L) ⁽⁸⁾</i> | <i>Turbidity (NTU) ⁽⁹⁾</i> | <i>Volume Purged (gallons)</i> |
|----------------------------|-------------|-------------|---|---|--|--|---|--|---|--|
| MW-DN-116S | 08/09/2006 | 13:00 | 200 | 7.31 | 17.92 | 4690 | 77 | 1.63 | 136 | NM |
| | | 13:05 | 150 | 7.20 | 17.70 | 1690 | 77 | 1.13 | 52.9 | NM |
| | | 13:10 | 150 | 7.12 | 17.67 | 1670 | 78 | 1.23 | 40.5 | NM |
| | | 13:15 | 150 | 7.13 | 17.75 | 1680 | 78 | 1.37 | 26.6 | NM |
| | | 13:20 | 150 | 7.10 | 17.7 | 1680 | 79 | 1.32 | 20.0 | NM |
| | | 13:25 | 150 | 7.08 | 18.3 | 1690 | 78 | 1.04 | 14.6 | NM |
| | | 13:30 | 150 | 7.07 | 18.82 | 1690 | 78 | 1.08 | 10.31 | NM |
| | | 13:35 | 150 | 7.06 | 18.86 | 1690 | 78 | 1.10 | 7.29 | NM |
| | | 13:40 | 150 | 7.07 | 18.78 | 1690 | 78 | 0.99 | 6.96 | NM |
| | | 13:45 | 150 | 7.08 | 18.77 | 1690 | 78 | 0.97 | 4.91 | NM |
| MW-DN-116I | 08/09/2006 | 12:55 | 200 | 7.06 | 18.60 | 1640 | 127 | 0.75 | 12.1 | NM |
| | | 13:00 | 200 | 7.01 | 18.91 | 1590 | 117 | 0.64 | 11.4 | NM |
| | | 13:05 | 200 | 6.99 | 19.04 | 1530 | 108 | 0.56 | 7.37 | NM |
| | | 13:10 | 200 | 6.99 | 19.04 | 1500 | 105 | 0.53 | 6.32 | NM |
| | | 13:15 | 200 | 6.98 | 18.82 | 1490 | 102 | 0.51 | 5.91 | NM |
| | | 13:20 | 200 | 6.98 | 18.95 | 1410 | 100 | 0.49 | 6.29 | NM |
| | | 13:25 | 200 | 6.99 | 18.88 | 1374 | 97 | 0.49 | 5.16 | NM |
| | | 13:30 | 200 | 6.99 | 18.98 | 1424 | 95 | 0.49 | 4.07 | NM |
| MW-DN-117I | 08/10/2006 | 13:20 | 200 | 7.13 | 16.68 | 733 | 285 | 1.18 | >1000 | NM |
| | | 13:25 | 200 | 7.11 | 16.64 | 770 | 285 | 1.19 | 480 | NM |
| | | 13:30 | 200 | 7.00 | 16.60 | 690 | 288 | 0.68 | 250 | NM |
| | | 13:35 | 200 | 7.04 | 16.60 | 631 | 288 | 0.63 | 118 | NM |
| | | 13:40 | 200 | 7.01 | 16.84 | 738 | 290 | 0.61 | 69 | NM |
| | | 13:45 | 200 | 6.99 | 16.99 | 740 | 291 | 0.59 | 56.3 | NM |
| | | 13:50 | 200 | 7.00 | 17.42 | 733 | 294 | 0.62 | 49.3 | NM |
| | | 13:55 | 200 | 6.95 | 17.17 | 745 | 296 | 0.51 | 25.5 | NM |
| | | 14:00 | 200 | 6.94 | 17.08 | 748 | 297 | 0.45 | 18.3 | NM |
| | | 14:05 | 200 | 6.93 | 17.17 | 750 | 297 | 0.43 | 12.4 | NM |
| | | 14:10 | 200 | 9.93 | 17.15 | 749 | 297 | 0.43 | 7.62 | NM |
| | | 14:15 | 200 | 6.93 | 17.17 | 750 | 298 | 0.43 | 5.09 | NM |

TABLE 4.5

**SUMMARY OF MONITORING WELL PURGING PARAMETERS
FLEETWIDE ASSESSMENT
DRESDEN GENERATING STATION
MORRIS, ILLINOIS**

| <i>Sample Location</i> | <i>Date</i> | <i>Time</i> | <i>Pumping Rate (mL/min) ⁽¹⁾</i> | <i>pH (Std. Units) ⁽²⁾</i> | <i>Temperature (°C) ⁽³⁾</i> | <i>Conductivity (µS/cm) ⁽⁴⁾</i> | <i>ORP ⁽⁵⁾ (mV) ⁽⁶⁾</i> | <i>DO ⁽⁷⁾ (mg/L) ⁽⁸⁾</i> | <i>Turbidity (NTU) ⁽⁹⁾</i> | <i>Volume Purged (gallons)</i> |
|----------------------------|-------------|-------------|---|---|--|--|---|--|---|--|
| MW-DN-118S | 08/10/2006 | 15:25 | 200 | 7.02 | 20.90 | 1063 | 257 | 0.80 | 2.93 | NM |
| | | 15:30 | 200 | 6.95 | 20.81 | 1065 | 243 | 0.60 | 4.23 | NM |
| | | 15:35 | 200 | 6.95 | 20.72 | 1093 | 224 | 0.46 | 2.17 | NM |
| | | 15:40 | 200 | 6.94 | 20.68 | 1109 | 217 | 0.45 | 3.18 | NM |
| | | 15:45 | 200 | 6.94 | 20.62 | 1127 | 210 | 0.41 | 2.08 | NM |
| | | 15:50 | 200 | 6.93 | 20.59 | 1130 | 207 | 0.40 | 2.13 | NM |
| | | 15:55 | 200 | 6.94 | 20.57 | 1131 | 205 | 0.40 | 1.99 | NM |
| MW-DN-119S | 08/11/2006 | 8:30 | 200 | 6.95 | 17.48 | 1600 | 71 | 0.84 | 62.3 | NM |
| | | 8:35 | 150 | 6.90 | 17.95 | 1580 | 71 | 0.75 | 66.5 | NM |
| | | 8:40 | 150 | 6.92 | 18.04 | 1590 | 72 | 0.69 | 43.1 | NM |
| | | 8:45 | 150 | 6.88 | 18.13 | 1590 | 71 | 0.64 | 32 | NM |
| | | 8:50 | 150 | 6.84 | 18.08 | 1600 | 71 | 0.62 | 31 | NM |
| | | 8:55 | 150 | 6.85 | 18.09 | 1600 | 72 | 0.61 | 33.2 | NM |
| MW-DN-119I | 08/11/2006 | 8:30 | 200 | 7.04 | 17.49 | 997 | 338 | 1.00 | 418 | NM |
| | | 8:35 | 200 | 6.91 | 17.58 | 1000 | 338 | 0.68 | 118 | NM |
| | | 8:40 | 200 | 6.88 | 17.68 | 1000 | 338 | 0.59 | 49.7 | NM |
| | | 8:45 | 200 | 6.87 | 17.71 | 1001 | 336 | 0.53 | 24.1 | NM |
| | | 8:50 | 200 | 6.88 | 17.72 | 1004 | 333 | 0.52 | 14.7 | NM |
| | | 8:55 | 200 | 6.89 | 17.76 | 1006 | 328 | 0.50 | 6.51 | NM |
| | | 9:00 | 200 | 6.87 | 17.83 | 1007 | 322 | 0.48 | 5.58 | NM |
| MW-DN-120S | 08/08/2006 | 9:05 | 200 | 6.86 | 17.80 | 1008 | 321 | 0.47 | 4.98 | NM |
| | | 15:40 | 300 | 6.55 | 18.00 | 2330 | 241 | 3.40 | 41.5 | NM |
| | | 15:45 | 200 | 6.30 | 16.96 | 2330 | 216 | 2.24 | 24.5 | NM |
| | | 15:50 | 300 | 6.36 | 15.88 | 2340 | 207 | 1.49 | 11.9 | NM |
| | | 15:55 | 250 | 6.36 | 15.81 | 2340 | 202 | 1.20 | 9.48 | NM |
| | | 16:00 | 250 | 6.37 | 15.92 | 2330 | 196 | 0.91 | 3.85 | NM |

TABLE 4.5

SUMMARY OF MONITORING WELL PURGING PARAMETERS
FLEETWIDE ASSESSMENT
DRESDEN GENERATING STATION
MORRIS, ILLINOIS

| <i>Sample Location</i> | <i>Date</i> | <i>Time</i> | <i>Pumping Rate (mL/min) ⁽¹⁾</i> | <i>pH (Std. Units) ⁽²⁾</i> | <i>Temperature (°C) ⁽³⁾</i> | <i>Conductivity (μS/cm) ⁽⁴⁾</i> | <i>ORP ⁽⁵⁾ (mV) ⁽⁶⁾</i> | <i>DO ⁽⁷⁾ (mg/L) ⁽⁸⁾</i> | <i>Turbidity (NTU) ⁽⁹⁾</i> | <i>Volume Purged (gallons)</i> |
|----------------------------|-------------|-------------|---|---|--|--|---|--|---|--|
| MW-DN-120I | 08/08/2006 | 15:40 | 300 | 6.91 | 14.62 | 1680 | 66 | 0.79 | >1000 | NM |
| | | 15:45 | 200 | 6.83 | 15.25 | 1403 | 68 | 0.41 | >1000 | NM |
| | | 15:50 | 400 | 6.84 | 15.33 | 1362 | 68 | 0.37 | >1000 | NM |
| | | 15:55 | 200 | 6.87 | 15.39 | 1319 | 68 | 0.34 | >1000 | NM |
| | | 16:00 | 200 | 6.79 | 16.71 | 1311 | 68 | 0.31 | 857 | NM |
| | | 16:05 | 200 | 6.87 | 13.85 | 1280 | 67 | 0.29 | 534 | NM |
| | | 16:10 | 200 | 6.87 | 13.78 | 1239 | 69 | 0.28 | 444 | NM |
| | | 16:15 | 200 | 6.88 | 13.76 | 1220 | 69 | 0.26 | 328 | NM |
| | | 16:20 | 200 | 6.88 | 13.76 | 1211 | 69 | 0.25 | 295 | NM |
| | | 16:25 | 200 | 6.87 | 13.78 | 1202 | 69 | 0.24 | 218 | NM |
| | | 16:30 | 200 | 6.87 | 13.90 | 1190 | 69 | 0.23 | 150 | NM |
| | | 16:35 | 200 | 6.96 | 13.65 | 1185 | 64 | 0.22 | 120 | NM |
| | | 16:40 | 200 | 6.95 | 13.76 | 1179 | 65 | 0.22 | 115 | NM |
| | | 16:45 | 200 | 6.94 | 13.71 | 1188 | 65 | 0.22 | 112 | NM |
| MW-DN-121S | 08/08/2006 | 11:15 | 100 | 6.63 | 17.93 | 1346 | 39 | 1.34 | >1000 | NM |
| | | 11:20 | 150 | 6.59 | 16.98 | 1353 | 37 | 1.24 | >1000 | NM |
| | | 11:25 | 150 | 6.60 | 15.82 | 1354 | 37 | 1.09 | 792 | NM |
| | | 11:30 | 300 | 6.60 | 15.74 | 1348 | 37 | 0.83 | 283 | NM |
| | | 11:35 | 200 | 6.60 | 15.70 | 1331 | 37 | 0.64 | 65.2 | NM |
| | | 11:40 | 300 | 6.61 | 15.76 | 1325 | 36 | 0.54 | 37.1 | NM |
| | | 11:45 | 300 | 6.63 | 15.74 | 1313 | 36 | 0.44 | 12.8 | NM |
| | | 11:50 | 300 | 6.64 | 15.75 | 1304 | 35 | 0.39 | 12 | NM |
| | | 11:55 | 300 | 6.65 | 15.74 | 1300 | 34 | 0.37 | 7.31 | NM |
| | | 12:00 | 300 | 6.65 | 15.71 | 1296 | 34 | 0.36 | 3.76 | NM |

TABLE 4.5

SUMMARY OF MONITORING WELL PURGING PARAMETERS
FLEETWIDE ASSESSMENT
DRESDEN GENERATING STATION
MORRIS, ILLINOIS

| <i>Sample Location</i> | <i>Date</i> | <i>Time</i> | <i>Pumping Rate (mL/min) ⁽¹⁾</i> | <i>pH (Std. Units) ⁽²⁾</i> | <i>Temperature (°C) ⁽³⁾</i> | <i>Conductivity (µS/cm) ⁽⁴⁾</i> | <i>ORP ⁽⁵⁾ (mV) ⁽⁶⁾</i> | <i>DO ⁽⁷⁾ (mg/L) ⁽⁸⁾</i> | <i>Turbidity (NTU) ⁽⁹⁾</i> | <i>Volume Purged (gallons)</i> |
|----------------------------|-------------|-------------|---|---|--|--|---|--|---|--|
| MW-DN-121I | 08/08/2006 | 7:55 | 400 | 7.56 | 13.36 | 1192 | 73 | 0.51 | >1000 | NM |
| | | 8:00 | 400 | 7.56 | 14.76 | 1181 | 72 | 0.49 | >1000 | NM |
| | | 8:05 | 400 | 7.59 | 13.40 | 1175 | 72 | 0.42 | 904 | NM |
| | | 8:10 | 400 | 7.57 | 13.91 | 1176 | 73 | 0.38 | >1000 | NM |
| | | 8:15 | 400 | 7.58 | 14.45 | 1171 | 72 | 0.38 | >1000 | NM |
| | | 8:20 | 400 | 7.57 | 14.58 | 1170 | 73 | 0.39 | >1000 | NM |
| | | 8:25 | 300 | 7.57 | 14.03 | 1176 | 73 | 0.39 | 371.00 | NM |
| | | 8:30 | 300 | 7.57 | 14.14 | 1176 | 73 | 0.40 | 201.00 | NM |
| | | 8:35 | 300 | 7.58 | 14.17 | 1176 | 72 | 0.39 | 188.00 | NM |
| | | 8:40 | 300 | 7.58 | 14.21 | 1175 | 72 | 0.39 | 189.00 | NM |
| | | 8:45 | 300 | 7.57 | 14.24 | 1173 | 72 | 0.38 | 184.00 | NM |
| MW-DN-122S | 08/08/2006 | 9:25 | 200 | 7.27 | 17.21 | 862 | 67 | 3.03 | >1000 | NM |
| | | 9:30 | 200 | 7.21 | 17.12 | 943 | 67 | 3.50 | 338 | NM |
| | | 9:35 | 150 | 7.18 | 17.63 | 958 | 68 | 3.44 | 207 | NM |
| | | 9:40 | 150 | 7.13 | 17.03 | 983 | 70 | 3.88 | 113 | NM |
| | | 9:45 | 150 | 7.11 | 16.93 | 982 | 69 | 3.86 | 30.1 | NM |
| | | 9:50 | 150 | 7.11 | 16.91 | 981 | 69 | 3.91 | 20.7 | NM |
| | | 9:55 | 150 | 7.14 | 16.98 | 981 | 68 | 3.93 | 8.9 | NM |
| | | 10:00 | 150 | 7.16 | 16.99 | 981 | 68 | 3.93 | 4.72 | NM |
| MW-DN-122I | 08/08/2006 | 7:55 | 400 | 7.56 | 13.36 | 1192 | 73 | 0.51 | >1000 | NM |
| | | 8:00 | 400 | 7.56 | 14.76 | 1181 | 72 | 0.49 | >1000 | NM |
| | | 8:05 | 400 | 7.59 | 13.42 | 1175 | 72 | 0.42 | 904 | NM |
| | | 8:10 | 400 | 7.57 | 13.91 | 1176 | 73 | 0.38 | >1000 | NM |
| | | 8:15 | 400 | 7.58 | 14.45 | 1171 | 72 | 0.38 | >1000 | NM |
| | | 8:20 | 400 | 7.57 | 14.58 | 1170 | 73 | 0.39 | >1000 | NM |
| | | 8:25 | 300 | 7.57 | 14.03 | 1176 | 73 | 0.39 | 371 | NM |
| | | 8:30 | 300 | 7.57 | 14.14 | 1176 | 73 | 0.40 | 201 | NM |
| | | 8:35 | 300 | 7.58 | 14.17 | 1176 | 72 | 0.39 | 188 | NM |
| | | 8:40 | 300 | 7.58 | 17.21 | 1175 | 72 | 0.39 | 189 | NM |
| | | 8:45 | 300 | 7.57 | 14.24 | 1173 | 72 | 0.38 | 184 | NM |

TABLE 4.5

**SUMMARY OF MONITORING WELL PURGING PARAMETERS
FLEETWIDE ASSESSMENT
DRESDEN GENERATING STATION
MORRIS, ILLINOIS**

| <i>Sample Location</i> | <i>Date</i> | <i>Time</i> | <i>Pumping Rate (mL/min) ⁽¹⁾</i> | <i>pH (Std. Units) ⁽²⁾</i> | <i>Temperature (°C) ⁽³⁾</i> | <i>Conductivity (µS/cm) ⁽⁴⁾</i> | <i>ORP ⁽⁵⁾ (mV) ⁽⁶⁾</i> | <i>DO ⁽⁷⁾ (mg/L) ⁽⁸⁾</i> | <i>Turbidity (NTU) ⁽⁹⁾</i> | <i>Volume Purged (gallons)</i> |
|----------------------------|-------------|-------------|---|---|--|--|---|--|---|--|
| MW-DN-123I | 08/08/2006 | 13:45 | 200 | 7.37 | 17.91 | 525 | 55 | 2.74 | 294 | NM |
| | | 13:50 | 200 | 7.34 | 18.06 | 520 | 55 | 2.41 | 110 | NM |
| | | 13:55 | 150 | 7.31 | 18.79 | 517 | 55 | 2.20 | 73.2 | NM |
| | | 14:00 | 200 | 7.38 | 17.53 | 516 | 56 | 2.27 | 49.9 | NM |
| | | 14:05 | 160 | 7.32 | 17.13 | 512 | 57 | 1.80 | 22.1 | NM |
| | | 14:10 | 150 | 7.33 | 17.65 | 511 | 57 | 1.79 | 13 | NM |
| | | 14:15 | 150 | 7.26 | 17.70 | 510 | 60 | 1.60 | 9.98 | NM |
| | | 14:20 | 150 | 7.30 | 18.73 | 512 | 59 | 1.60 | 6.52 | NM |
| | | 14:25 | 150 | 7.32 | 16.62 | 517 | 62 | 1.60 | 4.73 | NM |

Notes:

- (1) mL/min - milliliters per minute
 - (2) Std. Units - standard units
 - (3) °C - degrees Celsius
 - (4) µS/cm - microsiemens per centimeter
 - (5) ORP - oxidation-reduction potential
 - (6) mV - millivolts
 - (7) DO - dissolved oxygen
 - (8) mg/L - milligrams per liter
 - (9) NTU - nephelometric turbidity units
- The last three readings are provided in the table

TABLE 4.6

SAMPLE KEY
FLEETWIDE ASSESSMENT
DRESDEN GENERATING STATION
MORRIS, ILLINOIS

| <i>Sample Location</i> | <i>Sample Identification</i> | <i>QC Sample</i> | <i>Date</i> | <i>Time</i> | <i>Matrix</i> | <i>Analysis</i> |
|------------------------|--------------------------------|------------------|-------------|-------------|---------------|--------------------------------|
| DSP-152 | WG-DN-DSP-152-052306-JH-001 | Duplicate (010) | 5/23/2006 | 11:14 | Groundwater | Tritium / Target Radionuclides |
| DSP-157M | WG-DN-DSP-157M-052306-JH-002 | | 5/23/2006 | 13:36 | Groundwater | Tritium / Target Radionuclides |
| DSP-157S | WG-DN-DSP-157S-052306-JH-003 | | 5/23/2006 | 15:50 | Groundwater | Tritium / Target Radionuclides |
| DSP-126 | WG-DN-DSP-126-052406-JH-004 | | 5/24/2006 | 11:37 | Groundwater | Tritium / Target Radionuclides |
| DSP-153 | WG-DN-DSP-153-052406-JH-005 | | 5/24/2006 | 13:20 | Groundwater | Tritium / Target Radionuclides |
| DSP-154 | WG-DN-DSP-154-052506-JH-006 | | 5/25/2006 | 6:40 | Groundwater | Tritium / Target Radionuclides |
| DSP-158M | WG-DN-DSP-158M-052506-JH-007 | | 5/25/2006 | 9:40 | Groundwater | Tritium / Target Radionuclides |
| DSP-158S | WG-DN-DSP-158S-052506-JH-008 | | 5/25/2006 | 13:00 | Groundwater | Tritium / Target Radionuclides |
| DSP-159M | WG-DN-DSP-159M-052506-JH-009 | | 5/25/2006 | 14:45 | Groundwater | Tritium / Target Radionuclides |
| MW-DN-103S | WG-DN-MW-DN-103S-052606-JH-010 | | 5/26/2006 | 9:40 | Groundwater | Tritium / Target Radionuclides |
| MW-DN-103S | WG-DN-MW-DN-103S-052606-JH-011 | Duplicate (019) | 5/26/2006 | 10:00 | Groundwater | Tritium / Target Radionuclides |
| MW-DN-103I | WG-DN-MW-DN-103I-052606-JH-012 | | 5/26/2006 | 11:05 | Groundwater | Tritium / Target Radionuclides |
| MW-DN-106S | WG-DN-MW-DN-106S-052606-JH-013 | | 5/26/2006 | 14:00 | Groundwater | Tritium / Target Radionuclides |
| DSP-121 | WG-DN-DSP-121-052606-JH-014 | | 5/26/2006 | 15:20 | Groundwater | Tritium / Target Radionuclides |
| DSP-117 | WG-DN-DSP-117-052606-JH-015 | | 5/26/2006 | 16:55 | Groundwater | Tritium / Target Radionuclides |
| DSP-147 | WG-DN-DSP-147-053006-JH-016 | | 5/30/2006 | 9:40 | Groundwater | Tritium / Target Radionuclides |
| DSP-148 | WG-DN-DSP-148-053006-JH-017 | | 5/30/2006 | 13:50 | Groundwater | Tritium / Target Radionuclides |
| DSP-156 | WG-DN-DSP-156-053006-JH-018 | | 5/30/2006 | 15:50 | Groundwater | Tritium / Target Radionuclides |
| DSP-149R | WG-DN-DSP-149R-053106-JH-019 | | 5/31/2006 | 10:00 | Groundwater | Tritium / Target Radionuclides |
| DSP-149R | WG-DN-DSP-149R-053106-JH-020 | | 5/31/2006 | 10:50 | Groundwater | Tritium / Target Radionuclides |
| DSP-159S | WG-DN-DSP-159S-053106-JH-022 | Duplicate (060) | 5/31/2006 | 13:30 | Groundwater | Tritium / Target Radionuclides |
| DSP-105 | WG-DN-DSP-DN-105-052306-JL-051 | | 5/23/2006 | 11:30 | Groundwater | Tritium / Target Radionuclides |
| DSP-106 | WG-DN-DSP-DN-106-052306-JL-052 | | 5/23/2006 | 12:30 | Groundwater | Tritium / Target Radionuclides |
| DSP-107 | WG-DN-DSP-DN-107-052306-JL-053 | | 5/23/2006 | 13:50 | Groundwater | Tritium / Target Radionuclides |
| DSP-150 | WG-DN-DSP-DN-150-052406-JL-054 | | 5/24/2006 | 12:25 | Groundwater | Tritium / Target Radionuclides |
| DSP-151 | WG-DN-DSP-DN-151-052406-JL-055 | | 5/24/2006 | 14:15 | Groundwater | Tritium / Target Radionuclides |
| DSP-108 | WG-DN-DSP-DN-108-052406-JL-056 | | 5/24/2006 | 17:05 | Groundwater | Tritium / Target Radionuclides |
| DSP-118 | WG-DN-DSP-DN-118-052506-JL-057 | | 5/25/2006 | 10:15 | Groundwater | Tritium / Target Radionuclides |
| DSP-155 | WG-DN-DSP-DN-155-052506-JL-058 | | 5/25/2006 | 15:00 | Groundwater | Tritium / Target Radionuclides |
| DSP-122 | WG-DN-DSP-DN-122-052506-JL-059 | | 5/25/2006 | 17:00 | Groundwater | Tritium / Target Radionuclides |
| DSP-123 | WG-DN-DSP-DN-123-052606-JL-060 | Duplicate (060) | 5/26/2006 | 10:10 | Groundwater | Tritium / Target Radionuclides |
| DSP-123 | WG-DN-DSP-DN-123-052606-JL-061 | | 5/26/2006 | 10:20 | Groundwater | Tritium / Target Radionuclides |
| DSP-124 | WG-DN-DSP-DN-124-052606-JL-062 | | 5/26/2006 | 12:00 | Groundwater | Tritium / Target Radionuclides |
| MW-DN-101S | WG-DN-MW-DN-101S-052606-JL-063 | | 5/26/2006 | 14:10 | Groundwater | Tritium / Target Radionuclides |
| MW-DN-101I | WG-DN-MW-DN-101I-052606-JL-064 | | 5/26/2006 | 15:35 | Groundwater | Tritium / Target Radionuclides |

TABLE 4.6

SAMPLE KEY
FLEETWIDE ASSESSMENT
DRESDEN GENERATING STATION
MORRIS, ILLINOIS

| <i>Sample Location</i> | <i>Sample Identification</i> | <i>QC Sample</i> | <i>Date</i> | <i>Time</i> | <i>Matrix</i> | <i>Analysis</i> |
|------------------------|--------------------------------|------------------|-------------|-------------|---------------|---|
| MW-DN-108I | WG-DN-MW-DN-108I-052606-JL-065 | Duplicate (070) | 5/26/2006 | 17:00 | Groundwater | Tritium / Target Radionuclides / Strontium-90 |
| DSP-127 | WG-DN-DSP-DN-127-053006-JL-066 | | 5/30/2006 | 10:55 | Groundwater | Tritium / Target Radionuclides |
| MW-DN-110S | WG-DN-MW-DN-110S-053006-JL-067 | | 5/30/2006 | 14:10 | Groundwater | Tritium / Target Radionuclides |
| MW-DN-110I | WG-DN-MW-DN-110I-053006-JL-068 | | 5/30/2006 | 15:15 | Groundwater | Tritium / Target Radionuclides |
| MW-DN-104S | WG-DN-MW-DN-104S-053006-JL-069 | | 5/30/2006 | 17:20 | Groundwater | Tritium / Target Radionuclides |
| MW-DN-109I | WG-DN-MW-DN-109I-053106-JL-070 | | 5/31/2006 | 10:15 | Groundwater | Tritium / Target Radionuclides |
| MW-DN-109I | WG-DN-MW-DN-109I-053106-JL-071 | | 5/31/2006 | 10:25 | Groundwater | Tritium / Target Radionuclides |
| MW-DN-109S | WG-DN-MW-DN-109S-053106-JL-072 | | 5/31/2006 | 11:45 | Groundwater | Tritium / Target Radionuclides |
| MW-DN-111S | WG-DN-MW-DN-111S-053106-JL-073 | | 5/31/2006 | 14:00 | Groundwater | Tritium / Target Radionuclides |
| MW-DN-107S | WG-DN-MW-DN-107S-053106-JL-074 | | 5/31/2006 | 14:50 | Groundwater | Tritium / Target Radionuclides |
| MW-DN-102I | WG-DN-MW-DN-102I-060106-JL-075 | | 6/1/2006 | 10:45 | Groundwater | Tritium / Target Radionuclides |
| MW-DN-102S | WG-DN-MW-DN-102S-060106-JL-076 | | 6/1/2006 | 11:50 | Groundwater | Tritium / Target Radionuclides |
| MW-DN-105S | WG-DN-MW-DN-105S-060106-JL-077 | | 6/1/2006 | 14:10 | Groundwater | Tritium / Target Radionuclides |
| DSP-125 | WG-DN-DSP-DN-125-060106-JL-078 | | 6/1/2006 | 15:10 | Groundwater | Tritium / Target Radionuclides |
| SW-DN-103 | WS-DN-SW-103-053106-JH-021 | Duplicate (027) | 5/31/2006 | 12:00 | Surface Water | Tritium / Target Radionuclides |
| SW-DN-101 | WS-DN-SW-101-053106-JH-023 | | 5/31/2006 | 14:00 | Surface Water | Tritium / Target Radionuclides |
| SW-DN-102 | WS-DN-SW-102-053106-JH-024 | | 5/31/2006 | 15:20 | Surface Water | Tritium / Target Radionuclides |
| SW-DN-105 | WS-DN-SW-105-060106-JH-025 | | 6/1/2006 | 9:00 | Surface Water | Tritium / Target Radionuclides |
| SW-DN-104 | WS-DN-SW-104-060106-JH-026 | | 6/1/2006 | 9:40 | Surface Water | Tritium / Target Radionuclides |
| SW-DN-106 | WS-DN-SW-106-060106-JH-027 | | 6/1/2006 | 11:20 | Surface Water | Tritium / Target Radionuclides |
| SW-DN-106 | WS-DN-SW-106-060106-JH-028 | | 6/1/2006 | 11:40 | Surface Water | Tritium / Target Radionuclides |
| MW-DN-122I | WG-DN-MW-DN-122I-080806-GL-001 | | 8/8/2006 | 8:50 | Groundwater | Tritium / Target Radionuclides |
| MW-DN-122S | WG-DN-MW-DN-122S-080806-GL-002 | | 8/8/2006 | 10:05 | Groundwater | Tritium / Target Radionuclides |
| MW-DN-121S | WG-DN-MW-DN-121S-080806-GL-003 | | 8/8/2006 | 12:05 | Groundwater | Tritium / Target Radionuclides |
| MW-DN-123I | WG-DN-MW-DN-123I-080806-GL-004 | | 8/8/2006 | 14:30 | Groundwater | Tritium / Target Radionuclides |
| MW-DN-120I | RB-DN-MW-DN-120I-080806-GL-005 | | 8/8/2006 | 14:40 | Water | Tritium / Target Radionuclides |
| MW-DN-120I | WG-DN-MW-DN-120I-080806-GL-006 | | 8/8/2006 | 16:50 | Groundwater | Tritium / Target Radionuclides |
| MW-DN-120S | WG-DN-MW-DN-120S-080806-GL-007 | | 8/8/2006 | 16:10 | Groundwater | Tritium / Target Radionuclides |
| MW-DN-113S | WG-DN-MW-DN-113S-080906-GL-008 | Duplicate (009) | 8/9/2006 | 10:00 | Groundwater | Tritium / Target Radionuclides |
| MW-DN-113I | WG-DN-MW-DN-113I-080906-GL-009 | | 8/9/2006 | 11:25 | Groundwater | Tritium / Target Radionuclides |
| MW-DN-113I | WG-DN-MW-DN-113I-080906-GL-010 | | 8/9/2006 | 11:45 | Groundwater | Tritium / Target Radionuclides |
| MW-DN-116S | WG-DN-MW-DN-116S-080906-GL-011 | | 8/9/2006 | 13:35 | Groundwater | Tritium / Target Radionuclides |
| MW-DN-116I | WG-DN-MW-DN-116I-080906-GL-012 | | 8/9/2006 | 13:50 | Groundwater | Tritium / Target Radionuclides |
| MW-DN-112S | WG-DN-MW-DN-112S-081006-GL-013 | | 8/10/2006 | 11:05 | Groundwater | Tritium / Target Radionuclides |
| MW-DN-112I | WG-DN-MW-DN-112I-081006-GL-014 | | 8/10/2006 | 12:10 | Groundwater | Tritium / Target Radionuclides |

TABLE 4.6

SAMPLE KEY
FLEETWIDE ASSESSMENT
DRESDEN GENERATING STATION
MORRIS, ILLINOIS

| <i>Sample Location</i> | <i>Sample Identification</i> | <i>QC Sample</i> | <i>Date</i> | <i>Time</i> | <i>Matrix</i> | <i>Analysis</i> |
|------------------------|--------------------------------|------------------|-------------|-------------|---------------|--------------------------------|
| MW-DN-117I | WG-DN-MW-DN-117I-081006-GL-015 | | 8/10/2006 | 14:20 | Groundwater | Tritium / Target Radionuclides |
| MW-DN-118S | WG-DN-MW-DN-118I-081006-GL-016 | | 8/10/2006 | 16:00 | Groundwater | Tritium / Target Radionuclides |
| MW-DN-119S | WG-DN-MW-DN-119S-081106-GL-017 | | 8/11/2006 | 9:00 | Groundwater | Tritium / Target Radionuclides |
| MW-DN-119I | WG-DN-MW-DN-119I-081106-GL-018 | | 8/11/2006 | 9:10 | Groundwater | Tritium / Target Radionuclides |
| MW-DN-115I | WG-DN-MW-DN-115I-081106-GL-019 | | 8/11/2006 | 11:30 | Groundwater | Tritium / Target Radionuclides |
| MW-DN-114S | WG-DN-MW-DN-114S-081106-GL-020 | | 8/11/2006 | 13:15 | Groundwater | Tritium / Target Radionuclides |
| MW-DN-114S | WG-DN-MW-DN-114S-081106-GL-021 | Duplicate (020) | 8/11/2006 | 13:40 | Groundwater | Tritium / Target Radionuclides |
| MW-DN-108I | WG-DN-MW-DN-108I-081406-GL-022 | | 8/14/2006 | 9:45 | Groundwater | Tritium / Target Radionuclides |
| MW-DN-108I | WG-DN-MW-DN-108I-081406-GL-023 | Duplicate (022) | 8/14/2006 | 10:10 | Groundwater | Tritium / Target Radionuclides |
| MW-DN-115S | WG-DN-MW-DN-115S-081406-GL-024 | | 8/14/2006 | 11:10 | Groundwater | Tritium / Target Radionuclides |
| MW-DN-114I | WG-DN-MW-DN-114I-081406-GL-025 | | 8/14/2006 | 12:55 | Groundwater | Tritium / Target Radionuclides |
| MW-DN-123S | WG-DN-MW-DN-123S-080806-GL-026 | | 8/8/2006 | 14:45 | Groundwater | Tritium |

Note:

QC - Quality Control

Target Radionuclides: Sr-89/90, Mn-54, Co-58, Fe-59, Co-60, Zn-65, Nb-95, Zr-95, Cs-134, Cs-137, Ba-140, and La-140

Duplicate (020) - Duplicate of sample number in parenthesis

TABLE 5.1

**SUMMARY OF CALCULATED VERTICAL GRADIENTS
FLEETWIDE ASSESSMENT
DRESDEN GENERATING STATION
MORRIS, ILLINOIS**

| Sample Location | Top of Screen Elevation (ft AMSL) ⁽¹⁾ | Bottom of Screen Elevation (ft AMSL) | Mid-Point of Screen Elevation (ft AMSL) | 22-May-06 | | 7-Aug-06 | |
|---------------------------------------|--|--------------------------------------|---|-----------------------|---|-----------------------|---|
| | | | | Water Level (ft AMSL) | Vertical Gradient (ft/ft downward) ⁽²⁾ | Water Level (ft AMSL) | Vertical Gradient (ft/ft downward) ⁽²⁾ |
| DSP-157S | 516.59 | 506.59 | 511.59 | 516.07 | 0.184 | 515.84 | 0.169 |
| DSP-157M | 468.23 | 458.29 | 463.26 | 507.16 | | 507.69 | |
| DSP-158S | 505.73 | 495.73 | 500.73 | 506.51 | 0.036 | 505.12 | 0.011 |
| DSP-158M | 461.97 | 451.97 | 456.97 | 504.92 | | 504.66 | |
| DSP-159S | 511.27 | 501.27 | 506.27 | 509.09 | 0.059 | 508.94 | 0.056 |
| DSP-159M | 468.23 | 458.23 | 463.23 | 506.53 | | 506.52 | |
| MW-DN-101S | 507.10 | 497.10 | 502.10 | 506.27 | 0.050 | 505.88 | 0.059 |
| MW-DN-101I | 477.08 | 467.08 | 472.08 | 504.77 | | 504.12 | |
| MW-DN-102S | 511.98 | 501.98 | 506.98 | 513.63 | 0.035 | 513.88 | 0.051 |
| MW-DN-102I | 476.91 | 466.91 | 471.91 | 512.42 | | 512.10 | |
| MW-DN-103S | 509.53 | 499.53 | 504.53 | 508.39 | 0.097 | 508.03 | 0.052 |
| MW-DN-103I | 488.93 | 478.93 | 483.93 | 506.39 | | 506.96 | |
| MW-DN-109S | 506.29 | 496.29 | 501.29 | 509.42 | -0.007 | 509.34 | -0.009 |
| MW-DN-109I | 476.27 | 466.27 | 471.27 | 509.63 | | 509.62 | |
| MW-DN-110S | 506.96 | 496.96 | 501.96 | 511.07 | 0.083 | 511.06 | 0.089 |
| MW-DN-110I | 476.14 | 466.14 | 471.14 | 508.51 | | 508.32 | |
| MW-DN-112S | 509.72 | 504.72 | 507.22 | NA | NA | 514.11 | 0.153 |
| MW-DN-112I | 485.06 | 475.06 | 480.06 | NA | NA | 509.95 | |
| MW-DN-113S | 510.36 | 505.36 | 507.86 | NA | NA | 513.60 | 0.025 |
| MW-DN-113I | 478.33 | 468.33 | 473.33 | NA | NA | 512.74 | |
| MW-DN-114S | 485.76 | 475.76 | 480.76 | NA | NA | 507.70 | -0.332 |
| MW-DN-114I | 471.71 | 466.71 | 469.21 | NA | NA | 511.54 | |
| MW-DN-115S | 491.89 | 486.89 | 489.39 | NA | NA | 509.22 | -0.010 |
| MW-DN-115I | 470.88 | 460.88 | 465.88 | NA | NA | 509.46 | |
| MW-DN-116S | 494.40 | 489.40 | 491.90 | NA | NA | 504.28 | 0.032 |
| MW-DN-116I | 481.80 | 471.80 | 476.80 | NA | NA | 503.79 | |
| MW-DN-119S | 500.52 | 495.52 | 498.02 | NA | NA | 506.47 | 0.005 |
| MW-DN-119I | 486.45 | 476.45 | 481.45 | NA | NA | 506.38 | |
| MW-DN-120S | 483.85 | 473.85 | 478.85 | NA | NA | 504.22 | 0.004 |
| MW-DN-120I | 464.09 | 454.09 | 459.09 | NA | NA | 504.14 | |
| MW-DN-122S | 519.22 | 514.22 | 516.72 | NA | NA | 520.54 | 0.170 |
| MW-DN-122I | 492.73 | 482.73 | 487.73 | NA | NA | 515.61 | |
| MW-DN-123S | 498.98 | 493.98 | 496.48 | NA | NA | 494.85 | -0.566 |
| MW-DN-123I | 478.71 | 468.71 | 473.71 | NA | NA | 507.73 | |
| Average Vertical Gradient Across Site | | | | | 0.067 | | -0.002 |

Notes:

(1) ft AMSL - feet above mean sea level

(2) Positive value denotes downward vertical gradient; negative value denotes upward vertical gradient

NA Elevation not available

TABLE 5.2

**ANALYTICAL RESULTS SUMMARY - TRITIUM IN GROUNDWATER
FLEETWIDE ASSESSMENT
DRESDEN GENERATING STATION
MORRIS, ILLINOIS**

| <i>Sample Location</i> | <i>Sample Identification</i> | <i>QC Sample</i> | <i>Sample Date</i> | <i>Tritium (pCi/L)</i> | <i>Result Error</i> |
|------------------------|--------------------------------|------------------|--------------------|------------------------|---------------------|
| DSP-105 | WG-DN-DSP-DN-105-052306-JL-051 | | 5/23/2006 | 319 | +/-117 |
| DSP-106 | WG-DN-DSP-DN-106-052306-JL-052 | | 5/23/2006 | 2370 | +/-289 |
| DSP-107 | WG-DN-DSP-DN-107-052306-JL-053 | | 5/23/2006 | 9820 | +/-1030 |
| DSP-108 | WG-DN-DSP-DN-108-052406-JL-056 | | 5/24/2006 | 1930 | +/-244 |
| DSP-117 | WG-DN-DSP-117-052606-JH-015 | | 5/26/2006 | ND (200) | - |
| DSP-118 | WG-DN-DSP-DN-118-052506-JL-057 | | 5/25/2006 | ND (200) | - |
| DSP-121 | WG-DN-DSP-121-052606-JH-014 | | 5/26/2006 | ND (200) | - |
| DSP-122 | WG-DN-DSP-DN-122-052506-JL-059 | | 5/25/2006 | 1440 | +/-139 |
| DSP-123 | WG-DN-DSP-DN-123-052606-JL-060 | | 5/26/2006 | 13100 | +/-318 |
| DSP-123 | WG-DN-DSP-DN-123-052606-JL-061 | Duplicate (060) | 5/26/2006 | 13200 | +/-319 |
| DSP-124 | WG-DN-DSP-DN-124-052606-JL-062 | | 5/26/2006 | 10000 | +/-284 |
| DSP-125 | WG-DN-DSP-DN-125-060106-JL-078 | | 6/1/2006 | 320 | +/-127 |
| DSP-126 | WG-DN-DSP-126-052406-JH-004 | | 5/24/2006 | ND (200) | - |
| DSP-127 | WG-DN-DSP-DN-127-053006-JL-066 | | 5/30/2006 | ND (200) | - |
| DSP-147 | WG-DN-DSP-147-053006-JH-016 | | 5/30/2006 | ND (200) | - |
| DSP-148 | WG-DN-DSP-148-053006-JH-017 | | 5/30/2006 | 356 | +/-111 |
| DSP-149R | WG-DN-DSP-149R-053106-JH-019 | | 5/31/2006 | 668 | +/-144 |
| DSP-149R | WG-DN-DSP-149R-053106-JH-020 | Duplicate (019) | 5/31/2006 | 694 | +/-143 |
| DSP-150 | WG-DN-DSP-DN-150-052406-JL-054 | | 5/24/2006 | ND (200) | - |
| DSP-151 | WG-DN-DSP-DN-151-052406-JL-055 | | 5/24/2006 | ND (200) | - |
| DSP-152 | WG-DN-DSP-152-052306-JH-001 | | 5/23/2006 | ND (200) | - |
| DSP-153 | WG-DN-DSP-153-052406-JH-005 | | 5/24/2006 | ND (200) | - |
| DSP-154 | WG-DN-DSP-154-052506-JH-006 | | 5/25/2006 | ND (200) | - |
| DSP-155 | WG-DN-DSP-DN-155-052506-JL-058 | | 5/25/2006 | ND (200) | - |
| DSP-156 | WG-DN-DSP-156-053006-JH-018 | | 5/30/2006 | ND (200) | - |
| DSP-157M | WG-DN-DSP-157M-052306-JH-002 | | 5/23/2006 | ND (200) | - |
| DSP-157S | WG-DN-DSP-157S-052306-JH-003 | | 5/23/2006 | ND (200) | - |
| DSP-158M | WG-DN-DSP-158M-052506-JH-007 | | 5/25/2006 | ND (200) | - |
| DSP-158S | WG-DN-DSP-158S-052506-JH-008 | | 5/25/2006 | ND (200) | - |
| DSP-159M | WG-DN-DSP-159M-052506-JH-009 | | 5/25/2006 | 531 | +/-131 |
| DSP-159S | WG-DN-DSP-159S-053106-JH-022 | | 5/31/2006 | ND (200) | - |
| MW-DN-101I | WG-DN-MW-DN-101I-052606-JL-064 | | 5/26/2006 | 4570 | +/-208 |
| MW-DN-101S | WG-DN-MW-DN-101S-052606-JL-063 | | 5/26/2006 | 220 | +/-114 |
| MW-DN-102I | WG-DN-MW-DN-102I-060106-JL-075 | | 6/1/2006 | 1380 | +/-195 |
| MW-DN-102S | WG-DN-MW-DN-102S-060106-JL-076 | | 6/1/2006 | 4250 | +/-475 |
| MW-DN-103I | WG-DN-MW-DN-103I-052606-JH-012 | | 5/26/2006 | ND (200) | - |
| MW-DN-103S | WG-DN-MW-DN-103S-052606-JH-010 | | 5/26/2006 | ND (200) | - |
| MW-DN-103S | WG-DN-MW-DN-103S-052606-JH-011 | Duplicate (010) | 5/26/2006 | ND (200) | - |
| MW-DN-104S | WG-DN-MW-DN-104S-053006-JL-069 | | 5/30/2006 | ND (200) | - |
| MW-DN-105S | WG-DN-MW-DN-105S-060106-JL-077 | | 6/1/2006 | ND (200) | - |
| MW-DN-106S | WG-DN-MW-DN-106S-052606-JH-013 | | 5/26/2006 | ND (200) | - |
| MW-DN-107S | WG-DN-MW-DN-107S-053106-JL-074 | | 5/31/2006 | 1040 | +/-165 |
| MW-DN-108I | WG-DN-MW-DN-108I-052606-JL-065 | | 5/26/2006 | ND (200) | - |
| MW-DN-108I | WG-DN-MW-DN-108I-081406-GL-022 | | 8/14/2006 | ND (200) | - |
| MW-DN-108I | WG-DN-MW-DN-108I-081406-GL-023 | Duplicate (022) | 8/14/2006 | 210 | +/-124 |
| MW-DN-109I | WG-DN-MW-DN-109I-053106-JL-070 | | 5/31/2006 | 3620 | +/-413 |
| MW-DN-109I | WG-DN-MW-DN-109I-053106-JL-071 | Duplicate (070) | 5/31/2006 | 3750 | +/-424 |
| MW-DN-109S | WG-DN-MW-DN-109S-053106-JL-072 | | 5/31/2006 | 251 | +/-120 |
| MW-DN-110I | WG-DN-MW-DN-110I-053006-JL-068 | | 5/30/2006 | 516 | +/-134 |
| MW-DN-110S | WG-DN-MW-DN-110S-053006-JL-067 | | 5/30/2006 | ND (200) | - |
| MW-DN-111S | WG-DN-MW-DN-111S-053106-JL-073 | | 5/31/2006 | 638 | +/-140 |
| MW-DN-112I | WG-DN-MW-DN-112I-081006-GL-014 | | 8/10/2006 | 1520 | +/-214 |
| MW-DN-112S | WG-DN-MW-DN-112S-081006-GL-013 | | 8/10/2006 | ND (200) | - |
| MW-DN-113I | WG-DN-MW-DN-113I-080906-GL-009 | | 8/9/2006 | ND (200) | - |
| MW-DN-113I | WG-DN-MW-DN-113I-080906-GL-010 | Duplicate (009) | 8/9/2006 | ND (200) | - |
| MW-DN-113S | WG-DN-MW-DN-113S-080906-GL-008 | | 8/9/2006 | 451 | +/-136 |

**ANALYTICAL RESULTS SUMMARY - TRITIUM IN GROUNDWATER
FLEETWIDE ASSESSMENT
DRESDEN GENERATING STATION
MORRIS, ILLINOIS**

| <i>Sample Location</i> | <i>Sample Identification</i> | <i>QC Sample</i> | <i>Sample Date</i> | <i>Tritium (pCi/L)</i> | <i>Result Error</i> |
|------------------------|--------------------------------|------------------|--------------------|------------------------|---------------------|
| MW-DN-114I | WG-DN-MW-DN-114I-081406-GL-025 | Duplicate (020) | 8/14/2006 | 4190 | +/-473 |
| MW-DN-114S | WG-DN-MW-DN-114S-081106-GL-020 | | 8/11/2006 | 2770 | +/-336 |
| MW-DN-114S | WG-DN-MW-DN-114S-081106-GL-021 | | 8/11/2006 | 2740 | +/-335 |
| MW-DN-115I | WG-DN-MW-DN-115I-081106-GL-019 | | 8/11/2006 | ND (200) | - |
| MW-DN-115S | WG-DN-MW-DN-115S-081406-GL-024 | | 8/14/2006 | ND (200) | - |
| MW-DN-116I | WG-DN-MW-DN-116I-080906-GL-011 | | 8/9/2006 | 4150 | +/-468 |
| MW-DN-116S | WG-DN-MW-DN-116S-080906-GL-012 | | 8/9/2006 | 431 | +/-135 |
| MW-DN-117I | WG-DN-MW-DN-117I-081006-GL-015 | | 8/10/2006 | 1030 | +/-170 |
| MW-DN-118S | WG-DN-MW-DN-118S-081006-GL-016 | | 8/10/2006 | 1650 | +/-227 |
| MW-DN-119I | WG-DN-MW-DN-119I-081106-GL-018 | | 8/11/2006 | 1470 | +/-211 |
| MW-DN-119S | WG-DN-MW-DN-119S-081106-GL-017 | | 8/11/2006 | ND (200) | - |
| MW-DN-120I | WG-DN-MW-DN-120I-080806-GL-006 | | 8/8/2006 | ND (200) | - |
| MW-DN-120S | WG-DN-MW-DN-120S-080806-GL-007 | | 8/8/2006 | ND (200) | - |
| MW-DN-121S | WG-DN-MW-DN-121S-080806-GL-003 | | 8/8/2006 | ND (200) | - |
| MW-DN-122I | WG-DN-MW-DN-122I-080806-GL-001 | | 8/8/2006 | ND (200) | - |
| MW-DN-122S | WG-DN-MW-DN-122S-080806-GL-002 | | 8/8/2006 | ND (200) | - |
| MW-DN-123I | WG-DN-MW-DN-123I-080806-GL-004 | | 8/8/2006 | ND (200) | - |
| MW-DN-123S | WG-DN-MW-DN-123S-080806-GL-026 | | 8/8/2006 | ND (200) | - |

Notes:

Samples analyzed by: Teledyne Brown Engineering, Inc.

QC - Quality Control

ND () - Non-detect; value in parentheses is the LLD.

LLD - Lower limit of detection.

- - Non-detect value, +/- value not reported.

TABLE 5.3
ANALYTICAL RESULTS SUMMARY - RADIONUCLIDES IN GROUNDWATER
FLEETWIDE ASSESSMENT
DRESDEN GENERATING STATION
MORRIS, ILLINOIS

| Sample Location: | | DSP-105 | DSP-105 | DSP-106 | DSP-106 | DSP-107 | DSP-107 |
|-------------------------------------|-------|--------------------------------|---------|--------------------------------|---------|--------------------------------|---------|
| Sample Identification: | | WG-DN-DSP-DN-105-052306-JL-051 | Result | WG-DN-DSP-DN-106-052306-JL-052 | Result | WG-DN-DSP-DN-107-052306-JL-053 | Result |
| Sample Date: | | 5/23/2006 | Error | 5/23/2006 | Error | 5/23/2006 | Error |
| | Units | | | | | | |
| Target Radionuclides | | | | | | | |
| Barium-140 | pCi/L | ND (60) | - | ND (60) | - | ND (60) | - |
| Cesium-134 | pCi/L | ND (10) | - | ND (10) | - | ND (10) | - |
| Cesium-137 | pCi/L | ND (18) | - | ND (18) | - | ND (18) | - |
| Cobalt-58 | pCi/L | ND (15) | - | ND (15) | - | ND (15) | - |
| Cobalt-60 | pCi/L | ND (15) | - | ND (15) | - | ND (15) | - |
| Iron-59 | pCi/L | ND (30) | - | ND (30) | - | ND (30) | - |
| Lanthanum-140 | pCi/L | ND (15) | - | ND (15) | - | ND (15) | - |
| Manganese-54 | pCi/L | ND (15) | - | ND (15) | - | ND (15) | - |
| Niobium-95 | pCi/L | ND (10) | - | ND (10) | - | ND (10) | - |
| Strontium-89/90 (Total) | pCi/L | ND (2) | - | ND (2) | - | ND (2) | - |
| Strontium-90 | pCi/L | NA | - | NA | - | NA | - |
| Zinc-65 | pCi/L | ND (30) | - | ND (30) | - | ND (30) | - |
| Zirconium-95 | pCi/L | ND (10) | - | ND (10) | - | ND (10) | - |
| Non-Target Radionuclides (1) | | | | | | | |
| Actinium-228 | pCi/L | RNI | - | RNI | - | RNI | - |
| Potassium-40 | pCi/L | RNI | - | RNI | - | RNI | - |
| Radium-226 | pCi/L | RNI | - | RNI | - | RNI | - |
| Thorium-228 | pCi/L | RNI | - | RNI | - | RNI | - |
| Thorium-232 | pCi/L | RNI | - | RNI | - | RNI | - |

Notes:

Samples analyzed by: Teledyne Brown

(1) - These non-targeted radionuclides are included in this table but excluded from the discussion in this report. These radionuclides were either a) naturally occurring and thus not produced by the Station, or b) could be definitively evaluated as being naturally occurring due to the lack of presence of other radionuclides which would otherwise indicate the potential of production from the Station.

(2) - These sample results were considered invalid since the Strontium-89/90 (Total) was less than the Strontium-90

RNI- Radionuclide Not Identified during analysis.

NA - Data not available or not analyzed.

ND () - Non-detect; value in parentheses is the LLD.

LLD - Lower limit of detection.

U* - Compound/ Analyte not detected.

Peak not identified, but forced activity concentration exceeds Minimum

Detectable Concentration and 3 sigma.

-- Non-detect value, +/- value not reported.

TABLE 5.3

**ANALYTICAL RESULTS SUMMARY - RADIONUCLIDES IN GROUNDWATER
FLEETWIDE ASSESSMENT
DRESDEN GENERATING STATION
MORRIS, ILLINOIS**

| <i>Sample Location:</i> | | <i>DSP-108</i> | <i>DSP-108</i> | <i>DSP-117</i> | <i>DSP-117</i> | <i>DSP-118</i> | <i>DSP-118</i> |
|-------------------------------------|--------------|---------------------------------------|----------------|------------------------------------|----------------|---------------------------------------|----------------|
| <i>Sample Identification:</i> | | <i>WG-DN-DSP-DN-108-052406-JL-056</i> | <i>Result</i> | <i>WG-DN-DSP-117-052606-JH-015</i> | <i>Result</i> | <i>WG-DN-DSP-DN-118-052506-JL-057</i> | <i>Result</i> |
| <i>Sample Date:</i> | | <i>5/24/2006</i> | <i>Error</i> | <i>5/26/2006</i> | <i>Error</i> | <i>5/25/2006</i> | <i>Error</i> |
| | <i>Units</i> | | | | | | |
| <i>Target Radionuclides</i> | | | | | | | |
| Barium-140 | pCi/L | ND (60) | - | ND (60) | - | ND (60) | - |
| Cesium-134 | pCi/L | ND (10) | - | ND (10) | - | ND (10) U* | - |
| Cesium-137 | pCi/L | ND (18) | - | ND (18) | - | ND (18) | - |
| Cobalt-58 | pCi/L | ND (15) | - | ND (15) | - | ND (15) | - |
| Cobalt-60 | pCi/L | ND (15) | - | ND (15) | - | ND (15) | - |
| Iron-59 | pCi/L | ND (30) | - | ND (30) | - | ND (30) | - |
| Lanthanum-140 | pCi/L | ND (15) | - | ND (15) | - | ND (15) | - |
| Manganese-54 | pCi/L | ND (15) | - | ND (15) | - | ND (15) | - |
| Niobium-95 | pCi/L | ND (10) | - | ND (10) | - | ND (10) | - |
| Strontium-89/90 (Total) | pCi/L | ND (2) | - | ND (2) | - | ND (2) | - |
| Strontium-90 | pCi/L | NA | - | NA | - | NA | - |
| Zinc-65 | pCi/L | ND (30) | - | ND (30) | - | ND (30) | - |
| Zirconium-95 | pCi/L | ND (10) | - | ND (10) | - | ND (10) | - |
| <i>Non-Target Radionuclides (1)</i> | | | | | | | |
| Actinium-228 | pCi/L | RNI | - | RNI | - | RNI | - |
| Potassium-40 | pCi/L | RNI | - | RNI | - | RNI | - |
| Radium-226 | pCi/L | RNI | - | RNI | - | RNI | - |
| Thorium-228 | pCi/L | RNI | - | RNI | - | RNI | - |
| Thorium-232 | pCi/L | RNI | - | RNI | - | RNI | - |

Notes:

Samples analyzed by: Teledyne Brown

(1) - These non-targeted radionuclides are included in this table but excluded from the discussion in this report. These radionuclides were either a) naturally occurring and thus not produced by the Station, or b) could be definitively evaluated as being naturally occurring due to the lack of presence of other radionuclides which would otherwise indicate the potential of production from the Station.

(2) - These sample results were considered invalid since the Strontium-89/90 (Total) was less than the Strontium-90

RNI- Radionuclide Not Identified during analysis.

NA - Data not available or not analyzed.

ND () - Non-detect; value in parentheses is the LLD.

LLD - Lower limit of detection.

U* - Compound / Analyte not detected.

Peak not identified, but forced activity concentration exceeds Minimum

Detectable Concentration and 3 sigma.

- - Non-detect value, +/- value not reported.

TABLE 5.3

**ANALYTICAL RESULTS SUMMARY - RADIONUCLIDES IN GROUNDWATER
FLEETWIDE ASSESSMENT
DRESDEN GENERATING STATION
MORRIS, ILLINOIS**

| <i>Sample Location:</i> | | <i>DSP-121</i> | <i>DSP-121</i> | <i>DSP-122</i> | <i>DSP-122</i> | <i>DSP-123</i> | <i>DSP-123</i> |
|-------------------------------------|--------------|------------------------------------|----------------|---------------------------------------|----------------|---------------------------------------|----------------|
| <i>Sample Identification:</i> | | <i>WG-DN-DSP-121-052606-JH-014</i> | <i>Result</i> | <i>WG-DN-DSP-DN-122-052506-JL-059</i> | <i>Result</i> | <i>WG-DN-DSP-DN-123-052606-JL-060</i> | <i>Result</i> |
| <i>Sample Date:</i> | | <i>5/26/2006</i> | <i>Error</i> | <i>5/25/2006</i> | <i>Error</i> | <i>5/26/2006</i> | <i>Error</i> |
| | <i>Units</i> | | | | | | |
| <i>Target Radionuclides</i> | | | | | | | |
| Barium-140 | pCi/L | ND (60) | - | ND (60) | - | ND (60) | - |
| Cesium-134 | pCi/L | ND (10) | - | ND (10) | - | ND (10) | - |
| Cesium-137 | pCi/L | ND (18) | - | ND (18) | - | ND (18) | - |
| Cobalt-58 | pCi/L | ND (15) | - | ND (15) | - | ND (15) | - |
| Cobalt-60 | pCi/L | ND (15) | - | ND (15) | - | ND (15) | - |
| Iron-59 | pCi/L | ND (30) | - | ND (30) | - | ND (30) | - |
| Lanthanum-140 | pCi/L | ND (15) | - | ND (15) | - | ND (15) | - |
| Manganese-54 | pCi/L | ND (15) | - | ND (15) | - | ND (15) | - |
| Niobium-95 | pCi/L | ND (10) | - | ND (10) | - | ND (10) | - |
| Strontium-89/90 (Total) | pCi/L | ND (2) | - | ND (2) | - | ND (2) | - |
| Strontium-90 | pCi/L | NA | - | NA | - | NA | - |
| Zinc-65 | pCi/L | ND (30) | - | ND (30) | - | ND (30) | - |
| Zirconium-95 | pCi/L | ND (10) | - | ND (10) | - | ND (10) | - |
| <i>Non-Target Radionuclides (1)</i> | | | | | | | |
| Actinium-228 | pCi/L | RNI | - | RNI | - | RNI | - |
| Potassium-40 | pCi/L | RNI | - | RNI | - | RNI | - |
| Radium-226 | pCi/L | RNI | - | RNI | - | RNI | - |
| Thorium-228 | pCi/L | RNI | - | RNI | - | RNI | - |
| Thorium-232 | pCi/L | 16.9 | +/-8.458 | RNI | - | RNI | - |

Notes:

Samples analyzed by: Teledyne Brown

(1) - These non-targeted radionuclides are included in this table but excluded from the discussion in this report. These radionuclides were either a) naturally occurring and thus not produced by the Station, or b) could be definitively evaluated as being naturally occurring due to the lack of presence of other radionuclides which would otherwise indicate the potential of production from the Station.

(2) - These sample results were considered invalid since the Strontium-89/90 (Total) was less than the Strontium-90

RNI- Radionuclide Not Identified during analysis.

NA - Data not available or not analyzed.

ND () - Non-detect; value in parentheses is the LLD.

LLD - Lower limit of detection.

U* - Compound/Analyte not detected.

Peak not identified, but forced activity concentration exceeds Minimum

Detectable Concentration and 3 sigma.

-- Non-detect value, +/- value not reported.

TABLE 5.3

**ANALYTICAL RESULTS SUMMARY - RADIONUCLIDES IN GROUNDWATER
FLEETWIDE ASSESSMENT
DRESDEN GENERATING STATION
MORRIS, ILLINOIS**

| <i>Sample Location:</i> | | <i>DSP-123</i> | <i>DSP-123</i> | <i>DSP-124</i> | <i>DSP-124</i> | <i>DSP-125</i> | <i>DSP-125</i> |
|-------------------------------------|------------------|---------------------------------------|----------------|---------------------------------------|----------------|---------------------------------------|----------------|
| <i>Sample Identification:</i> | | <i>WG-DN-DSP-DN-123-052606-JL-061</i> | <i>Result</i> | <i>WG-DN-DSP-DN-124-052606-JL-062</i> | <i>Result</i> | <i>WG-DN-DSP-DN-125-060106-JL-078</i> | <i>Result</i> |
| <i>Sample Date:</i> | | <i>5/26/2006</i> | <i>Error</i> | <i>5/26/2006</i> | <i>Error</i> | <i>6/1/2006</i> | <i>Error</i> |
| | <i>Duplicate</i> | | | | | | |
| | <i>Units</i> | | | | | | |
| <i>Target Radionuclides</i> | | | | | | | |
| Barium-140 | pCi/L | ND (60) | - | ND (60) | - | ND (60) | - |
| Cesium-134 | pCi/L | ND (10) | - | ND (10) | - | ND (10) | - |
| Cesium-137 | pCi/L | ND (18) | - | ND (18) | - | ND (18) | - |
| Cobalt-58 | pCi/L | ND (15) | - | ND (15) | - | ND (15) | - |
| Cobalt-60 | pCi/L | ND (15) | - | ND (15) | - | ND (15) | - |
| Iron-59 | pCi/L | ND (30) | - | ND (30) | - | ND (30) | - |
| Lanthanum-140 | pCi/L | ND (15) | - | ND (15) | - | ND (15) | - |
| Manganese-54 | pCi/L | ND (15) | - | ND (15) | - | ND (15) | - |
| Niobium-95 | pCi/L | ND (10) | - | ND (10) | - | ND (10) | - |
| Strontium-89/90 (Total) | pCi/L | ND (2) | - | ND (2) | - | ND (2) | - |
| Strontium-90 | pCi/L | NA | - | NA | - | NA | - |
| Zinc-65 | pCi/L | ND (30) | - | ND (30) | - | ND (30) | - |
| Zirconium-95 | pCi/L | ND (10) | - | ND (10) | - | ND (10) | - |
| <i>Non-Target Radionuclides (1)</i> | | | | | | | |
| Actinium-228 | pCi/L | RNI | - | RNI | - | RNI | - |
| Potassium-40 | pCi/L | 74.95 | +/-48.68 | RNI | - | RNI | - |
| Radium-226 | pCi/L | RNI | - | RNI | - | RNI | - |
| Thorium-228 | pCi/L | RNI | - | RNI | - | RNI | - |
| Thorium-232 | pCi/L | RNI | - | RNI | - | RNI | - |

Notes:

Samples analyzed by: Teledyne Brown

(1) - These non-targeted radionuclides are included in this table but excluded from the discussion in this report. These radionuclides were either a) naturally occurring and thus not produced by the Station, or b) could be definitively evaluated as being naturally occurring due to the lack of presence of other radionuclides which would otherwise indicate the potential of production from the Station.

(2) - These sample results were considered invalid since the Strontium-89/90 (Total) was less than the Strontium-90

RNI- Radionuclide Not Identified during analysis.

NA - Data not available or not analyzed.

ND () - Non-detect; value in parentheses is the LLD.

LLD - Lower limit of detection.

U* - Compound / Analyte not detected.

Peak not identified, but forced activity concentration exceeds Minimum

Detectable Concentration and 3 sigma.

-- Non-detect value, +/- value not reported.

TABLE 5.3

**ANALYTICAL RESULTS SUMMARY - RADIONUCLIDES IN GROUNDWATER
FLEETWIDE ASSESSMENT
DRESDEN GENERATING STATION
MORRIS, ILLINOIS**

| <i>Sample Location:</i> | | <i>DSP-126</i> | <i>DSP-126</i> | <i>DSP-127</i> | <i>DSP-127</i> | <i>DSP-147</i> | <i>DSP-147</i> |
|-------------------------------------|--------------|------------------------------------|----------------|---------------------------------------|----------------|------------------------------------|----------------|
| <i>Sample Identification:</i> | | <i>WG-DN-DSP-126-052406-JH-004</i> | <i>Result</i> | <i>WG-DN-DSP-DN-127-053006-JL-066</i> | <i>Result</i> | <i>WG-DN-DSP-147-053006-JH-016</i> | <i>Result</i> |
| <i>Sample Date:</i> | | <i>5/24/2006</i> | <i>Error</i> | <i>5/30/2006</i> | <i>Error</i> | <i>5/30/2006</i> | <i>Error</i> |
| | <i>Units</i> | | | | | | |
| <i>Target Radionuclides</i> | | | | | | | |
| Barium-140 | pCi/L | ND (60) | - | ND (60) | - | ND (60) | - |
| Cesium-134 | pCi/L | ND (10) | - | ND (10) | - | ND (10) | - |
| Cesium-137 | pCi/L | ND (18) | - | ND (18) | - | ND (18) | - |
| Cobalt-58 | pCi/L | ND (15) | - | ND (15) | - | ND (15) | - |
| Cobalt-60 | pCi/L | ND (15) | - | ND (15) | - | ND (15) | - |
| Iron-59 | pCi/L | ND (30) | - | ND (30) | - | ND (30) | - |
| Lanthanum-140 | pCi/L | ND (15) | - | ND (15) | - | ND (15) | - |
| Manganese-54 | pCi/L | ND (15) | - | ND (15) | - | ND (15) | - |
| Niobium-95 | pCi/L | ND (10) | - | ND (10) | - | ND (10) | - |
| Strontium-89/90 (Total) | pCi/L | ND (2) | - | ND (2) | - | ND (2) | - |
| Strontium-90 | pCi/L | NA | - | NA | - | NA | - |
| Zinc-65 | pCi/L | ND (30) | - | ND (30) | - | ND (30) | - |
| Zirconium-95 | pCi/L | ND (10) | - | ND (10) | - | ND (10) | - |
| <i>Non-Target Radionuclides (1)</i> | | | | | | | |
| Actinium-228 | pCi/L | 61.32 | +/-12.11 | RNI | - | RNI | - |
| Potassium-40 | pCi/L | 64.41 | +/-42.33 | RNI | - | RNI | - |
| Radium-226 | pCi/L | RNI | - | RNI | - | RNI | - |
| Thorium-228 | pCi/L | RNI | - | RNI | - | RNI | - |
| Thorium-232 | pCi/L | RNI | - | RNI | - | RNI | - |

Notes:

Samples analyzed by: Teledyne Brown

(1) - These non-targeted radionuclides are included in this table but excluded from the discussion in this report. These radionuclides were either a) naturally occurring and thus not produced by the Station, or b) could be definitively evaluated as being naturally occurring due to the lack of presence of other radionuclides which would otherwise indicate the potential of production from the Station.

(2) - These sample results were considered invalid since the Strontium-89/90 (Total) was less than the Strontium-90

RNI- Radionuclide Not Identified during analysis.

NA - Data not available or not analyzed.

ND () - Non-detect; value in parentheses is the LLD.

LLD - Lower limit of detection.

U* - Compound / Analyte not detected.

Peak not identified, but forced activity concentration exceeds Minimum

Detectable Concentration and 3 sigma.

-- Non-detect value, +/- value not reported.

TABLE 5.3

**ANALYTICAL RESULTS SUMMARY - RADIONUCLIDES IN GROUNDWATER
FLEETWIDE ASSESSMENT
DRESDEN GENERATING STATION
MORRIS, ILLINOIS**

| <i>Sample Location:</i> | | <i>DSP-148</i> | <i>DSP-148</i> | <i>DSP-149R</i> | <i>DSP-149R</i> | <i>DSP-149R</i> | <i>DSP-149R</i> |
|-------------------------------------|--------------|------------------------------------|----------------|-------------------------------------|-----------------|-------------------------------------|-----------------|
| <i>Sample Identification:</i> | | <i>WG-DN-DSP-148-053006-JH-017</i> | <i>Result</i> | <i>WG-DN-DSP-149R-053106-JH-019</i> | <i>Result</i> | <i>WG-DN-DSP-149R-053106-JH-020</i> | <i>Result</i> |
| <i>Sample Date:</i> | | <i>5/30/2006</i> | <i>Error</i> | <i>5/31/2006</i> | <i>Error</i> | <i>5/31/2006</i> | <i>Error</i> |
| | <i>Units</i> | | | | | <i>Duplicate</i> | |
| <i>Target Radionuclides</i> | | | | | | | |
| Barium-140 | pCi/L | ND (60) | - | ND (60) | - | ND (60) | - |
| Cesium-134 | pCi/L | ND (10) U* | - | ND (10) | - | ND (10) | - |
| Cesium-137 | pCi/L | ND (18) | - | ND (18) | - | ND (18) | - |
| Cobalt-58 | pCi/L | ND (15) | - | ND (15) | - | ND (15) | - |
| Cobalt-60 | pCi/L | ND (15) | - | ND (15) | - | ND (15) | - |
| Iron-59 | pCi/L | ND (30) | - | ND (30) | - | ND (30) | - |
| Lanthanum-140 | pCi/L | ND (15) | - | ND (15) | - | ND (15) | - |
| Manganese-54 | pCi/L | ND (15) | - | ND (15) | - | ND (15) | - |
| Niobium-95 | pCi/L | ND (10) | - | ND (10) | - | ND (10) | - |
| Strontium-89/90 (Total) | pCi/L | ND (2) | - | ND (2) | - | ND (2) | - |
| Strontium-90 | pCi/L | NA | - | NA | - | NA | - |
| Zinc-65 | pCi/L | ND (30) | - | ND (30) | - | ND (30) | - |
| Zirconium-95 | pCi/L | ND (10) | - | ND (10) | - | ND (10) | - |
| <i>Non-Target Radionuclides (1)</i> | | | | | | | |
| Actinium-228 | pCi/L | RNI | - | RNI | - | RNI | - |
| Potassium-40 | pCi/L | RNI | - | RNI | - | RNI | - |
| Radium-226 | pCi/L | RNI | - | RNI | - | RNI | - |
| Thorium-228 | pCi/L | RNI | - | RNI | - | RNI | - |
| Thorium-232 | pCi/L | RNI | - | RNI | - | RNI | - |

Notes:

Samples analyzed by: Teledyne Brown

(1) - These non-targeted radionuclides are included in this table but excluded from the discussion in this report. These radionuclides were either a) naturally occurring and thus not produced by the Station, or b) could be definitively evaluated as being naturally occurring due to the lack of presence of other radionuclides which would otherwise indicate the potential of production from the Station.

(2) - These sample results were considered invalid since the Strontium-89/90 (Total) was less than the Strontium-90

RNI- Radionuclide Not Identified during analysis.

NA - Data not available or not analyzed.

ND () - Non-detect; value in parentheses is the LLD.

LLD - Lower limit of detection.

U* - Compound / Analyte not detected.

Peak not identified, but forced activity concentration exceeds Minimum

Detectable Concentration and 3 sigma.

-- Non-detect value, +/- value not reported.

TABLE 5.3

**ANALYTICAL RESULTS SUMMARY - RADIONUCLIDES IN GROUNDWATER
FLEETWIDE ASSESSMENT
DRESDEN GENERATING STATION
MORRIS, ILLINOIS**

| <i>Sample Location:</i> | | <i>DSP-150</i> | <i>DSP-150</i> | <i>DSP-151</i> | <i>DSP-151</i> | <i>DSP-152</i> | <i>DSP-152</i> |
|-------------------------------------|--------------|---------------------------------------|----------------|---------------------------------------|----------------|------------------------------------|----------------|
| <i>Sample Identification:</i> | | <i>WG-DN-DSP-DN-150-052406-JL-054</i> | <i>Result</i> | <i>WG-DN-DSP-DN-151-052406-JL-055</i> | <i>Result</i> | <i>WG-DN-DSP-152-052306-JH-001</i> | <i>Result</i> |
| <i>Sample Date:</i> | | <i>5/24/2006</i> | <i>Error</i> | <i>5/24/2006</i> | <i>Error</i> | <i>5/23/2006</i> | <i>Error</i> |
| | <i>Units</i> | | | | | | |
| <i>Target Radionuclides</i> | | | | | | | |
| Barium-140 | pCi/L | ND (60) | - | ND (60) | - | ND (60) | - |
| Cesium-134 | pCi/L | ND (10) | - | ND (10) | - | ND (10) | - |
| Cesium-137 | pCi/L | ND (18) | - | ND (18) | - | ND (18) | - |
| Cobalt-58 | pCi/L | ND (15) | - | ND (15) | - | ND (15) | - |
| Cobalt-60 | pCi/L | ND (15) | - | ND (15) | - | ND (15) | - |
| Iron-59 | pCi/L | ND (30) | - | ND (30) | - | ND (30) | - |
| Lanthanum-140 | pCi/L | ND (15) | - | ND (15) | - | ND (15) | - |
| Manganese-54 | pCi/L | ND (15) | - | ND (15) | - | ND (15) | - |
| Niobium-95 | pCi/L | ND (10) | - | ND (10) | - | ND (10) | - |
| Strontium-89/90 (Total) | pCi/L | ND (2) | - | ND (2) | - | ND (2) | - |
| Strontium-90 | pCi/L | NA | - | NA | - | NA | - |
| Zinc-65 | pCi/L | ND (30) | - | ND (30) | - | ND (30) | - |
| Zirconium-95 | pCi/L | ND (10) | - | ND (10) | - | ND (10) | - |
| <i>Non-Target Radionuclides (1)</i> | | | | | | | |
| Actinium-228 | pCi/L | RNI | - | RNI | - | RNI | - |
| Potassium-40 | pCi/L | RNI | - | RNI | - | RNI | - |
| Radium-226 | pCi/L | RNI | - | RNI | - | RNI | - |
| Thorium-228 | pCi/L | RNI | - | RNI | - | RNI | - |
| Thorium-232 | pCi/L | RNI | - | RNI | - | RNI | - |

Notes:

Samples analyzed by: Teledyne Brown

(1) - These non-targeted radionuclides are included in this table but excluded from the discussion in this report. These radionuclides were either a) naturally occurring and thus not produced by the Station, or b) could be definitively evaluated as being naturally occurring due to the lack of presence of other radionuclides which would otherwise indicate the potential of production from the Station.

(2) - These sample results were considered invalid since the Strontium-89/90 (Total) was less than the Strontium-90

RNI- Radionuclide Not Identified during analysis.

NA - Data not available or not analyzed.

ND () - Non-detect; value in parentheses is the LLD.

LLD - Lower limit of detection.

U* - Compound / Analyte not detected.

Peak not identified, but forced activity concentration exceeds Minimum

Detectable Concentration and 3 sigma.

-- Non-detect value, +/- value not reported.

TABLE 5.3

**ANALYTICAL RESULTS SUMMARY - RADIONUCLIDES IN GROUNDWATER
FLEETWIDE ASSESSMENT
DRESDEN GENERATING STATION
MORRIS, ILLINOIS**

| <i>Sample Location:</i> | | <i>DSP-153</i> | <i>DSP-153</i> | <i>DSP-154</i> | <i>DSP-154</i> | <i>DSP-155</i> | <i>DSP-155</i> |
|-------------------------------------|--------------|------------------------------------|----------------|------------------------------------|----------------|---------------------------------------|----------------|
| <i>Sample Identification:</i> | | <i>WG-DN-DSP-153-052406-JH-005</i> | <i>Result</i> | <i>WG-DN-DSP-154-052506-JH-006</i> | <i>Result</i> | <i>WG-DN-DSP-DN-155-052506-JL-058</i> | <i>Result</i> |
| <i>Sample Date:</i> | | <i>5/24/2006</i> | <i>Error</i> | <i>5/25/2006</i> | <i>Error</i> | <i>5/25/2006</i> | <i>Error</i> |
| | <i>Units</i> | | | | | | |
| <i>Target Radionuclides</i> | | | | | | | |
| Barium-140 | pCi/L | ND (60) | - | ND (60) | - | ND (60) | - |
| Cesium-134 | pCi/L | ND (10) | - | ND (10) U* | - | ND (10) | - |
| Cesium-137 | pCi/L | ND (18) | - | ND (18) | - | ND (18) | - |
| Cobalt-58 | pCi/L | ND (15) | - | ND (15) | - | ND (15) | - |
| Cobalt-60 | pCi/L | ND (15) | - | ND (15) | - | ND (15) | - |
| Iron-59 | pCi/L | ND (30) | - | ND (30) | - | ND (30) | - |
| Lanthanum-140 | pCi/L | ND (15) | - | ND (15) | - | ND (15) | - |
| Manganese-54 | pCi/L | ND (15) | - | ND (15) | - | ND (15) | - |
| Niobium-95 | pCi/L | ND (10) | - | ND (10) | - | ND (10) | - |
| Strontium-89/90 (Total) | pCi/L | ND (2) | - | ND (2) | - | ND (2) | - |
| Strontium-90 | pCi/L | NA | - | NA | - | NA | - |
| Zinc-65 | pCi/L | ND (30) | - | ND (30) | - | ND (30) | - |
| Zirconium-95 | pCi/L | ND (10) | - | ND (10) | - | ND (10) | - |
| <i>Non-Target Radionuclides (1)</i> | | | | | | | |
| Actinium-228 | pCi/L | RNI | - | RNI | - | RNI | - |
| Potassium-40 | pCi/L | RNI | - | RNI | - | RNI | - |
| Radium-226 | pCi/L | RNI | - | RNI | - | RNI | - |
| Thorium-228 | pCi/L | RNI | - | RNI | - | RNI | - |
| Thorium-232 | pCi/L | RNI | - | RNI | - | RNI | - |

Notes:

Samples analyzed by: Teledyne Brown

(1) - These non-targeted radionuclides are included in this table but excluded from the discussion in this report. These radionuclides were either a) naturally occurring and thus not produced by the Station, or b) could be definitively evaluated as being naturally occurring due to the lack of presence of other radionuclides which would otherwise indicate the potential of production from the Station.

(2) - These sample results were considered invalid since the Strontium-89/90 (Total) was less than the Strontium-90

RNI- Radionuclide Not Identified during analysis.

NA - Data not available or not analyzed.

ND () - Non-detect; value in parentheses is the LLD.

LLD - Lower limit of detection.

U* - Compound/Analyte not detected.

Peak not identified, but forced activity concentration exceeds Minimum

Detectable Concentration and 3 sigma.

-- Non-detect value, +/- value not reported.

TABLE 5.3

**ANALYTICAL RESULTS SUMMARY - RADIONUCLIDES IN GROUNDWATER
FLEETWIDE ASSESSMENT
DRESDEN GENERATING STATION
MORRIS, ILLINOIS**

| <i>Sample Location:</i> | | <i>DSP-156</i> | <i>DSP-156</i> | <i>DSP-157M</i> | <i>DSP-157M</i> | <i>DSP-157S</i> | <i>DSP-157S</i> |
|-------------------------------------|--------------|------------------------------------|----------------|-------------------------------------|-----------------|-------------------------------------|-----------------|
| <i>Sample Identification:</i> | | <i>WG-DN-DSP-156-053006-JH-018</i> | <i>Result</i> | <i>WG-DN-DSP-157M-052306-JH-002</i> | <i>Result</i> | <i>WG-DN-DSP-157S-052306-JH-003</i> | <i>Result</i> |
| <i>Sample Date:</i> | | <i>5/30/2006</i> | <i>Error</i> | <i>5/23/2006</i> | <i>Error</i> | <i>5/23/2006</i> | <i>Error</i> |
| | <i>Units</i> | | | | | | |
| <i>Target Radionuclides</i> | | | | | | | |
| Barium-140 | pCi/L | ND (60) | - | ND (60) | - | ND (60) | - |
| Cesium-134 | pCi/L | ND (10) | - | ND (10) | - | ND (10) | - |
| Cesium-137 | pCi/L | ND (18) | - | ND (18) | - | ND (18) | - |
| Cobalt-58 | pCi/L | ND (15) | - | ND (15) | - | ND (15) | - |
| Cobalt-60 | pCi/L | ND (15) | - | ND (15) | - | ND (15) | - |
| Iron-59 | pCi/L | ND (30) | - | ND (30) | - | ND (30) | - |
| Lanthanum-140 | pCi/L | ND (15) | - | ND (15) | - | ND (15) | - |
| Manganese-54 | pCi/L | ND (15) | - | ND (15) | - | ND (15) | - |
| Niobium-95 | pCi/L | ND (10) | - | ND (10) | - | ND (10) | - |
| Strontium-89/90 (Total) | pCi/L | ND (2) | - | ND (2) | - | ND (2) | - |
| Strontium-90 | pCi/L | NA | - | NA | - | NA | - |
| Zinc-65 | pCi/L | ND (30) | - | ND (30) U* | - | ND (30) | - |
| Zirconium-95 | pCi/L | ND (10) | - | ND (10) | - | ND (10) | - |
| <i>Non-Target Radionuclides (1)</i> | | | | | | | |
| Actinium-228 | pCi/L | RNI | - | RNI | - | RNI | - |
| Potassium-40 | pCi/L | RNI | - | RNI | - | RNI | - |
| Radium-226 | pCi/L | 121.4 | +/-68.44 | RNI | - | RNI | - |
| Thorium-228 | pCi/L | RNI | - | RNI | - | RNI | - |
| Thorium-232 | pCi/L | RNI | - | RNI | - | RNI | - |

Notes:

Samples analyzed by: Teledyne Brown

(1) - These non-targeted radionuclides are included in this table but excluded from the discussion in this report. These radionuclides were either a) naturally occurring and thus not produced by the Station, or b) could be definitively evaluated as being naturally occurring due to the lack of presence of other radionuclides which would otherwise indicate the potential of production from the Station.

(2) - These sample results were considered invalid since the Strontium-89/90 (Total) was less than the Strontium-90

RNI- Radionuclide Not Identified during analysis.

NA - Data not available or not analyzed.

ND () - Non-detect; value in parentheses is the LLD.

LLD - Lower limit of detection.

U* - Compound/Analyte not detected.

Peak not identified, but forced activity concentration exceeds Minimum

Detectable Concentration and 3 sigma.

-- Non-detect value, +/- value not reported.

TABLE 5.3

**ANALYTICAL RESULTS SUMMARY - RADIONUCLIDES IN GROUNDWATER
FLEETWIDE ASSESSMENT
DRESDEN GENERATING STATION
MORRIS, ILLINOIS**

| <i>Sample Location:</i> | | <i>DSP-158M</i> | <i>DSP-158M</i> | <i>DSP-158S</i> | <i>DSP-158S</i> | <i>DSP-159M</i> | <i>DSP-159M</i> |
|-------------------------------------|--------------|-------------------------------------|-----------------|-------------------------------------|-----------------|-------------------------------------|-----------------|
| <i>Sample Identification:</i> | | <i>WG-DN-DSP-158M-052506-JH-007</i> | <i>Result</i> | <i>WG-DN-DSP-158S-052506-JH-008</i> | <i>Result</i> | <i>WG-DN-DSP-159M-052506-JH-009</i> | <i>Result</i> |
| <i>Sample Date:</i> | | <i>5/25/2006</i> | <i>Error</i> | <i>5/25/2006</i> | <i>Error</i> | <i>5/25/2006</i> | <i>Error</i> |
| | <i>Units</i> | | | | | | |
| <i>Target Radionuclides</i> | | | | | | | |
| Barium-140 | pCi/L | ND (60) | - | ND (60) | - | ND (60) | - |
| Cesium-134 | pCi/L | ND (10) U* | - | ND (10) U* | - | ND (10) | - |
| Cesium-137 | pCi/L | ND (18) | - | ND (18) | - | ND (18) | - |
| Cobalt-58 | pCi/L | ND (15) | - | ND (15) | - | ND (15) | - |
| Cobalt-60 | pCi/L | ND (15) | - | ND (15) | - | ND (15) | - |
| Iron-59 | pCi/L | ND (30) | - | ND (30) | - | ND (30) | - |
| Lanthanum-140 | pCi/L | ND (15) | - | ND (15) | - | ND (15) | - |
| Manganese-54 | pCi/L | ND (15) | - | ND (15) | - | ND (15) | - |
| Niobium-95 | pCi/L | ND (10) | - | ND (10) | - | ND (10) | - |
| Strontium-89/90 (Total) | pCi/L | ND (2) | - | ND (2) | - | ND (2) | - |
| Strontium-90 | pCi/L | NA | - | NA | - | NA | - |
| Zinc-65 | pCi/L | ND (30) | - | ND (30) | - | ND (30) | - |
| Zirconium-95 | pCi/L | ND (10) | - | ND (10) | - | ND (10) | - |
| <i>Non-Target Radionuclides (1)</i> | | | | | | | |
| Actinium-228 | pCi/L | RNI | - | RNI | - | RNI | - |
| Potassium-40 | pCi/L | 165.1 | +/-26.11 | RNI | - | RNI | - |
| Radium-226 | pCi/L | RNI | - | RNI | - | RNI | - |
| Thorium-228 | pCi/L | RNI | - | RNI | - | RNI | - |
| Thorium-232 | pCi/L | RNI | - | 15.75 | +/-6.047 | RNI | - |

Notes:

Samples analyzed by: Teledyne Brown

(1) - These non-targeted radionuclides are included in this table but excluded from the discussion in this report. These radionuclides were either a) naturally occurring and thus not produced by the Station, or b) could be definitively evaluated as being naturally occurring due to the lack of presence of other radionuclides which would otherwise indicate the potential of production from the Station.

(2) - These sample results were considered invalid since the Strontium-89/90 (Total) was less than the Strontium-90

RNI- Radionuclide Not Identified during analysis.

NA - Data not available or not analyzed.

ND () - Non-detect; value in parentheses is the LLD.

LLD - Lower limit of detection.

U* - Compound / Analyte not detected.

Peak not identified, but forced activity concentration exceeds Minimum

Detectable Concentration and 3 sigma.

-- Non-detect value, +/- value not reported.

TABLE 5.3

**ANALYTICAL RESULTS SUMMARY - RADIONUCLIDES IN GROUNDWATER
FLEETWIDE ASSESSMENT
DRESDEN GENERATING STATION
MORRIS, ILLINOIS**

| <i>Sample Location:</i> | | <i>DSP-159S</i> | <i>DSP-159S</i> | <i>MW-DN-101I</i> | <i>MW-DN-101I</i> | <i>MW-DN-101S</i> | <i>MW-DN-101S</i> |
|-------------------------------------|--------------|-------------------------------------|-----------------|---------------------------------------|-------------------|---------------------------------------|-------------------|
| <i>Sample Identification:</i> | | <i>WG-DN-DSP-159S-053106-JH-022</i> | <i>Result</i> | <i>WG-DN-MW-DN-101I-052606-JL-064</i> | <i>Result</i> | <i>WG-DN-MW-DN-101S-052606-JL-063</i> | <i>Result</i> |
| <i>Sample Date:</i> | | <i>5/31/2006</i> | <i>Error</i> | <i>5/26/2006</i> | <i>Error</i> | <i>5/26/2006</i> | <i>Error</i> |
| | <i>Units</i> | | | | | | |
| Target Radionuclides | | | | | | | |
| Barium-140 | pCi/L | ND (60) | - | ND (60) | - | ND (60) | - |
| Cesium-134 | pCi/L | ND (10) | - | ND (10) | - | ND (10) U* | - |
| Cesium-137 | pCi/L | ND (18) | - | ND (18) | - | ND (18) | - |
| Cobalt-58 | pCi/L | ND (15) | - | ND (15) | - | ND (15) | - |
| Cobalt-60 | pCi/L | ND (15) | - | ND (15) | - | ND (15) | - |
| Iron-59 | pCi/L | ND (30) | - | ND (30) | - | ND (30) | - |
| Lanthanum-140 | pCi/L | ND (15) | - | ND (15) | - | ND (15) | - |
| Manganese-54 | pCi/L | ND (15) | - | ND (15) | - | ND (15) | - |
| Niobium-95 | pCi/L | ND (10) | - | ND (10) | - | ND (10) | - |
| Strontium-89/90 (Total) | pCi/L | ND (2) | - | ND (2) | - | ND (2) | - |
| Strontium-90 | pCi/L | NA | - | NA | - | NA | - |
| Zinc-65 | pCi/L | ND (30) | - | ND (30) | - | ND (30) | - |
| Zirconium-95 | pCi/L | ND (10) | - | ND (10) | - | ND (10) | - |
| Non-Target Radionuclides (1) | | | | | | | |
| Actinium-228 | pCi/L | RNI | - | RNI | - | RNI | - |
| Potassium-40 | pCi/L | RNI | - | RNI | - | RNI | - |
| Radium-226 | pCi/L | RNI | - | RNI | - | RNI | - |
| Thorium-228 | pCi/L | RNI | - | 8.284 | +/-4.883 | RNI | - |
| Thorium-232 | pCi/L | RNI | - | RNI | - | RNI | - |

Notes:

Samples analyzed by: Teledyne Brown

(1) - These non-targeted radionuclides are included in this table but excluded from the discussion in this report. These radionuclides were either a) naturally occurring and thus not produced by the Station, or b) could be definitively evaluated as being naturally occurring due to the lack of presence of other radionuclides which would otherwise indicate the potential of production from the Station.

(2) - These sample results were considered invalid since the Strontium-89/90 (Total) was less than the Strontium-90

RNI- Radionuclide Not Identified during analysis.

NA - Data not available or not analyzed.

ND () - Non-detect; value in parentheses is the LLD.

LLD - Lower limit of detection.

U* - Compound / Analyte not detected.

Peak not identified, but forced activity concentration exceeds Minimum

Detectable Concentration and 3 sigma.

-- Non-detect value, +/- value not reported.

TABLE 5.3

**ANALYTICAL RESULTS SUMMARY - RADIONUCLIDES IN GROUNDWATER
FLEETWIDE ASSESSMENT
DRESDEN GENERATING STATION
MORRIS, ILLINOIS**

| <i>Sample Location:</i> | | <i>MW-DN-102I</i> | <i>MW-DN-102I</i> | <i>MW-DN-102S</i> | <i>MW-DN-102S</i> | <i>MW-DN-103I</i> | <i>MW-DN-103I</i> |
|-------------------------------------|--------------|---------------------------------------|-------------------|---------------------------------------|-------------------|---------------------------------------|-------------------|
| <i>Sample Identification:</i> | | <i>WG-DN-MW-DN-102I-060106-JL-075</i> | <i>Result</i> | <i>WG-DN-MW-DN-102S-060106-JL-076</i> | <i>Result</i> | <i>WG-DN-MW-DN-103I-052606-JH-012</i> | <i>Result</i> |
| <i>Sample Date:</i> | | <i>6/1/2006</i> | <i>Error</i> | <i>6/1/2006</i> | <i>Error</i> | <i>5/26/2006</i> | <i>Error</i> |
| | <i>Units</i> | | | | | | |
| <i>Target Radionuclides</i> | | | | | | | |
| Barium-140 | pCi/L | ND (60) | - | ND (60) | - | ND (60) | - |
| Cesium-134 | pCi/L | ND (10) | - | ND (10) | - | ND (10) | - |
| Cesium-137 | pCi/L | ND (18) | - | ND (18) | - | ND (18) | - |
| Cobalt-58 | pCi/L | ND (15) | - | ND (15) | - | ND (15) | - |
| Cobalt-60 | pCi/L | ND (15) | - | ND (15) | - | ND (15) | - |
| Iron-59 | pCi/L | ND (30) | - | ND (30) | - | ND (30) | - |
| Lanthanum-140 | pCi/L | ND (15) | - | ND (15) | - | ND (15) | - |
| Manganese-54 | pCi/L | ND (15) | - | ND (15) | - | ND (15) | - |
| Niobium-95 | pCi/L | ND (10) | - | ND (10) | - | ND (10) | - |
| Strontium-89/90 (Total) | pCi/L | ND (2) | - | ND (2) | - | ND (2) | - |
| Strontium-90 | pCi/L | NA | - | NA | - | NA | - |
| Zinc-65 | pCi/L | ND (30) | - | ND (30) | - | ND (30) | - |
| Zirconium-95 | pCi/L | ND (10) | - | ND (10) | - | ND (10) | - |
| <i>Non-Target Radionuclides (1)</i> | | | | | | | |
| Actinium-228 | pCi/L | RNI | - | RNI | - | RNI | - |
| Potassium-40 | pCi/L | RNI | - | RNI | - | RNI | - |
| Radium-226 | pCi/L | RNI | - | RNI | - | RNI | - |
| Thorium-228 | pCi/L | RNI | - | RNI | - | RNI | - |
| Thorium-232 | pCi/L | RNI | - | RNI | - | RNI | - |

Notes:

Samples analyzed by: Teledyne Brown

(1) - These non-targeted radionuclides are included in this table but excluded from the discussion in this report. These radionuclides were either a) naturally occurring and thus not produced by the Station, or b) could be definitively evaluated as being naturally occurring due to the lack of presence of other radionuclides which would otherwise indicate the potential of production from the Station.

(2) - These sample results were considered invalid since the Strontium-89/90 (Total) was less than the Strontium-90

RNI- Radionuclide Not Identified during analysis.

NA - Data not available or not analyzed.

ND () - Non-detect; value in parentheses is the LLD.

LLD - Lower limit of detection.

U* - Compound/Analyte not detected.

Peak not identified, but forced activity concentration exceeds Minimum

Detectable Concentration and 3 sigma.

-- Non-detect value, +/- value not reported.

TABLE 5.3

**ANALYTICAL RESULTS SUMMARY - RADIONUCLIDES IN GROUNDWATER
FLEETWIDE ASSESSMENT
DRESDEN GENERATING STATION
MORRIS, ILLINOIS**

| <i>Sample Location:</i> | | <i>MW-DN-103S</i> | <i>MW-DN-103S</i> | <i>MW-DN-103S</i> | <i>MW-DN-103S</i> | <i>MW-DN-104S</i> | <i>MW-DN-104S</i> |
|-------------------------------------|--------------|---------------------------------------|-------------------|---------------------------------------|-------------------|---------------------------------------|-------------------|
| <i>Sample Identification:</i> | | <i>WG-DN-MW-DN-103S-052606-JH-010</i> | <i>Result</i> | <i>WG-DN-MW-DN-103S-052606-JH-011</i> | <i>Result</i> | <i>WG-DN-MW-DN-104S-053006-JL-069</i> | <i>Result</i> |
| <i>Sample Date:</i> | | <i>5/26/2006</i> | <i>Error</i> | <i>5/26/2006</i> | <i>Error</i> | <i>5/30/2006</i> | <i>Error</i> |
| | <i>Units</i> | | | <i>Duplicate</i> | | | |
| <i>Target Radionuclides</i> | | | | | | | |
| Barium-140 | pCi/L | ND (60) | - | ND (60) | - | ND (60) | - |
| Cesium-134 | pCi/L | ND (10) | - | ND (10) | - | ND (10) | - |
| Cesium-137 | pCi/L | ND (18) | - | ND (18) | - | ND (18) | - |
| Cobalt-58 | pCi/L | ND (15) | - | ND (15) | - | ND (15) | - |
| Cobalt-60 | pCi/L | ND (15) | - | ND (15) | - | ND (15) | - |
| Iron-59 | pCi/L | ND (30) | - | ND (30) | - | ND (30) | - |
| Lanthanum-140 | pCi/L | ND (15) | - | ND (15) | - | ND (15) | - |
| Manganese-54 | pCi/L | ND (15) | - | ND (15) | - | ND (15) | - |
| Niobium-95 | pCi/L | ND (10) | - | ND (10) | - | ND (10) | - |
| Strontium-89/90 (Total) | pCi/L | ND (2) | - | ND (2) | - | ND (2) | - |
| Strontium-90 | pCi/L | NA | - | NA | - | NA | - |
| Zinc-65 | pCi/L | ND (30) | - | ND (30) | - | ND (30) | - |
| Zirconium-95 | pCi/L | ND (10) | - | ND (10) | - | ND (10) | - |
| <i>Non-Target Radionuclides (1)</i> | | | | | | | |
| Actinium-228 | pCi/L | RNI | - | RNI | - | RNI | - |
| Potassium-40 | pCi/L | RNI | - | RNI | - | RNI | - |
| Radium-226 | pCi/L | RNI | - | RNI | - | RNI | - |
| Thorium-228 | pCi/L | RNI | - | RNI | - | RNI | - |
| Thorium-232 | pCi/L | RNI | - | RNI | - | RNI | - |

Notes:

Samples analyzed by: Teledyne Brown

(1) - These non-targeted radionuclides are included in this table but excluded from the discussion in this report. These radionuclides were either a) naturally occurring and thus not produced by the Station, or b) could be definitively evaluated as being naturally occurring due to the lack of presence of other radionuclides which would otherwise indicate the potential of production from the Station.

(2) - These sample results were considered invalid since the Strontium-89/90 (Total) was less than the Strontium-90

RNI- Radionuclide Not Identified during analysis.

NA - Data not available or not analyzed.

ND () - Non-detect; value in parentheses is the LLD.

LLD - Lower limit of detection.

U* - Compound/Analyte not detected.

Peak not identified, but forced activity concentration exceeds Minimum

Detectable Concentration and 3 sigma.

-- Non-detect value, +/- value not reported.

TABLE 5.3

**ANALYTICAL RESULTS SUMMARY - RADIONUCLIDES IN GROUNDWATER
FLEETWIDE ASSESSMENT
DRESDEN GENERATING STATION
MORRIS, ILLINOIS**

| | | | | | | | |
|-------------------------------------|--------------|---------------------------------------|-------------------|---------------------------------------|-------------------|---------------------------------------|-------------------|
| <i>Sample Location:</i> | | <i>MW-DN-105S</i> | <i>MW-DN-105S</i> | <i>MW-DN-106S</i> | <i>MW-DN-106S</i> | <i>MW-DN-107S</i> | <i>MW-DN-107S</i> |
| <i>Sample Identification:</i> | | <i>WG-DN-MW-DN-105S-060106-JL-077</i> | <i>Result</i> | <i>WG-DN-MW-DN-106S-052606-JH-013</i> | <i>Result</i> | <i>WG-DN-MW-DN-107S-053106-JL-074</i> | <i>Result</i> |
| <i>Sample Date:</i> | | <i>6/1/2006</i> | <i>Error</i> | <i>5/26/2006</i> | <i>Error</i> | <i>5/31/2006</i> | <i>Error</i> |
| | <i>Units</i> | | | | | | |
| <i>Target Radionuclides</i> | | | | | | | |
| Barium-140 | pCi/L | ND (60) | - | ND (60) | - | ND (60) | - |
| Cesium-134 | pCi/L | ND (10) | - | ND (10) | - | ND (10) | - |
| Cesium-137 | pCi/L | ND (18) | - | ND (18) | - | ND (18) | - |
| Cobalt-58 | pCi/L | ND (15) | - | ND (15) | - | ND (15) | - |
| Cobalt-60 | pCi/L | ND (15) | - | ND (15) | - | ND (15) | - |
| Iron-59 | pCi/L | ND (30) | - | ND (30) | - | ND (30) | - |
| Lanthanum-140 | pCi/L | ND (15) | - | ND (15) | - | ND (15) | - |
| Manganese-54 | pCi/L | ND (15) | - | ND (15) | - | ND (15) | - |
| Niobium-95 | pCi/L | ND (10) | - | ND (10) | - | ND (10) | - |
| Strontium-89/90 (Total) | pCi/L | ND (2) | - | ND (2) | - | ND (2) | - |
| Strontium-90 | pCi/L | NA | - | NA | - | NA | - |
| Zinc-65 | pCi/L | ND (30) | - | ND (30) | - | ND (30) | - |
| Zirconium-95 | pCi/L | ND (10) | - | ND (10) | - | ND (10) | - |
| <i>Non-Target Radionuclides (1)</i> | | | | | | | |
| Actinium-228 | pCi/L | RNI | - | RNI | - | RNI | - |
| Potassium-40 | pCi/L | RNI | - | RNI | - | RNI | - |
| Radium-226 | pCi/L | RNI | - | RNI | - | RNI | - |
| Thorium-228 | pCi/L | RNI | - | RNI | - | RNI | - |
| Thorium-232 | pCi/L | RNI | - | RNI | - | RNI | - |

Notes:

Samples analyzed by: Teledyne Brown

- (1) - These non-targeted radionuclides are included in this table but excluded from the discussion in this report. These radionuclides were either a) naturally occurring and thus not produced by the Station, or b) could be definitively evaluated as being naturally occurring due to the lack of presence of other radionuclides which would otherwise indicate the potential of production from the Station.

- (2) - These sample results were considered invalid since the Strontium-89/90 (Total) was less than the Strontium-90

RNI- Radionuclide Not Identified during analysis.

NA - Data not available or not analyzed.

ND () - Non-detect; value in parentheses is the LLD.

LLD - Lower limit of detection.

U* - Compound/ Analyte not detected.

Peak not identified, but forced activity concentration exceeds Minimum

Detectable Concentration and 3 sigma.

- - Non-detect value, +/- value not reported.

TABLE 5.3

**ANALYTICAL RESULTS SUMMARY - RADIONUCLIDES IN GROUNDWATER
FLEETWIDE ASSESSMENT
DRESDEN GENERATING STATION
MORRIS, ILLINOIS**

| | | | | | | | |
|-------------------------------------|--------------|---------------------------------------|-------------------|---------------------------------------|-------------------|---------------------------------------|-------------------|
| <i>Sample Location:</i> | | <i>MW-DN-108I</i> | <i>MW-DN-108I</i> | <i>MW-DN-108I</i> | <i>MW-DN-108I</i> | <i>MW-DN-108I</i> | <i>MW-DN-108I</i> |
| <i>Sample Identification:</i> | | <i>WG-DN-MW-DN-108I-052606-JL-065</i> | <i>Result</i> | <i>WG-DN-MW-DN-108I-052606-JL-065</i> | <i>Result</i> | <i>WG-DN-MW-DN-108I-081406-GL-022</i> | <i>Result</i> |
| <i>Sample Date:</i> | | <i>5/26/2006</i> | <i>Error</i> | <i>5/26/2006</i> | <i>Error</i> | <i>8/14/2006</i> | <i>Error</i> |
| | <i>Units</i> | | | <i>Re-run</i> | | | |
| <i>Target Radionuclides</i> | | | | | | | |
| Barium-140 | pCi/L | ND (60) | - | NA | - | ND (60) | - |
| Cesium-134 | pCi/L | ND (10) | - | NA | - | ND (10) | - |
| Cesium-137 | pCi/L | ND (18) | - | NA | - | ND (18) | - |
| Cobalt-58 | pCi/L | ND (15) | - | NA | - | ND (15) | - |
| Cobalt-60 | pCi/L | ND (15) | - | NA | - | ND (15) | - |
| Iron-59 | pCi/L | ND (30) | - | NA | - | ND (30) | - |
| Lanthanum-140 | pCi/L | ND (15) | - | NA | - | ND (15) | - |
| Manganese-54 | pCi/L | ND (15) | - | NA | - | ND (15) | - |
| Niobium-95 | pCi/L | ND (10) | - | NA | - | ND (10) | - |
| Strontium-89/90 (Total) | pCi/L | 4.42 | +/-1.23 | 3.39 | +/-0.774 | 3.21 ⁽²⁾ | +/-1 |
| Strontium-90 | pCi/L | 4.37 | +/-0.66 | 2.72 | +/-1.29 | 4.74 ⁽²⁾ | +/-2.45 |
| Zinc-65 | pCi/L | ND (30) U* | - | NA | - | ND (30) | - |
| Zirconium-95 | pCi/L | ND (10) | - | NA | - | ND (10) | - |
| <i>Non-Target Radionuclides (1)</i> | | | | | | | |
| Actinium-228 | pCi/L | RNI | - | RNI | - | RNI | - |
| Potassium-40 | pCi/L | RNI | - | RNI | - | RNI | - |
| Radium-226 | pCi/L | RNI | - | RNI | - | RNI | - |
| Thorium-228 | pCi/L | RNI | - | RNI | - | RNI | - |
| Thorium-232 | pCi/L | RNI | - | RNI | - | RNI | - |

Notes:

Samples analyzed by: Teledyne Brown

(1) - These non-targeted radionuclides are included in this table but excluded from the discussion in this report. These radionuclides were either a) naturally occurring and thus not produced by the Station, or b) could be definitively evaluated as being naturally occurring due to the lack of presence of other radionuclides which would otherwise indicate the potential of production from the Station.

(2) - These sample results were considered invalid since the Strontium-89/90 (Total) was less than the Strontium-90

RNI- Radionuclide Not Identified during analysis.

NA - Data not available or not analyzed.

ND () - Non-detect; value in parentheses is the LLD.

LLD - Lower limit of detection.

U* - Compound / Analyte not detected.

Peak not identified, but forced activity concentration exceeds Minimum

Detectable Concentration and 3 sigma.

-- Non-detect value, +/- value not reported.

TABLE 5.3

**ANALYTICAL RESULTS SUMMARY - RADIONUCLIDES IN GROUNDWATER
FLEETWIDE ASSESSMENT
DRESDEN GENERATING STATION
MORRIS, ILLINOIS**

| <i>Sample Location:</i> | | <i>MW-DN-108I</i> | <i>MW-DN-108I</i> | <i>MW-DN-109I</i> | <i>MW-DN-109I</i> | <i>MW-DN-109I</i> | <i>MW-DN-109I</i> |
|-------------------------------------|------------------|---------------------------------------|-------------------|---------------------------------------|-------------------|---------------------------------------|-------------------|
| <i>Sample Identification:</i> | | <i>WG-DN-MW-DN-108I-081406-GL-023</i> | <i>Result</i> | <i>WG-DN-MW-DN-109I-053106-JL-070</i> | <i>Result</i> | <i>WG-DN-MW-DN-109I-053106-JL-071</i> | <i>Result</i> |
| <i>Sample Date:</i> | | <i>8/14/2006</i> | <i>Error</i> | <i>5/31/2006</i> | <i>Error</i> | <i>5/31/2006</i> | <i>Error</i> |
| | <i>Duplicate</i> | | | | | <i>Duplicate</i> | |
| <i>Units</i> | | | | | | | |
| Target Radionuclides | | | | | | | |
| Barium-140 | pCi/L | ND (60) | - | ND (60) | - | ND (60) | - |
| Cesium-134 | pCi/L | ND (10) | - | ND (10) U* | - | ND (10) | - |
| Cesium-137 | pCi/L | ND (18) | - | ND (18) | - | ND (18) | - |
| Cobalt-58 | pCi/L | ND (15) | - | ND (15) | - | ND (15) | - |
| Cobalt-60 | pCi/L | ND (15) | - | ND (15) | - | ND (15) | - |
| Iron-59 | pCi/L | ND (30) | - | ND (30) | - | ND (30) | - |
| Lanthanum-140 | pCi/L | ND (15) | - | ND (15) | - | ND (15) | - |
| Manganese-54 | pCi/L | ND (15) | - | ND (15) | - | ND (15) | - |
| Niobium-95 | pCi/L | ND (10) | - | ND (10) | - | ND (10) | - |
| Strontium-89/90 (Total) | pCi/L | 2.72 | +/-1.01 | ND (2) | - | ND (2) | - |
| Strontium-90 | pCi/L | 2.17 | +/-0.783 | NA | - | NA | - |
| Zinc-65 | pCi/L | ND (30) | - | ND (30) | - | ND (30) | - |
| Zirconium-95 | pCi/L | ND (10) | - | ND (10) | - | ND (10) | - |
| Non-Target Radionuclides (1) | | | | | | | |
| Actinium-228 | pCi/L | RNI | - | RNI | - | RNI | - |
| Potassium-40 | pCi/L | RNI | - | RNI | - | RNI | - |
| Radium-226 | pCi/L | RNI | - | RNI | - | RNI | - |
| Thorium-228 | pCi/L | RNI | - | RNI | - | RNI | - |
| Thorium-232 | pCi/L | RNI | - | RNI | - | RNI | - |

Notes:

Samples analyzed by: Teledyne Brown

(1) - These non-targeted radionuclides are included in this table but excluded from the discussion in this report. These radionuclides were either a) naturally occurring and thus not produced by the Station, or b) could be definitively evaluated as being naturally occurring due to the lack of presence of other radionuclides which would otherwise indicate the potential of production from the Station.

(2) - These sample results were considered invalid since the Strontium-89/90 (Total) was less than the Strontium-90

RNI- Radionuclide Not Identified during analysis.

NA - Data not available or not analyzed.

ND () - Non-detect; value in parentheses is the LLD.

LLD - Lower limit of detection.

U* - Compound/ Analyte not detected.

Peak not identified, but forced activity concentration exceeds Minimum

Detectable Concentration and 3 sigma.

-- Non-detect value, +/- value not reported.

TABLE 5.3

**ANALYTICAL RESULTS SUMMARY - RADIONUCLIDES IN GROUNDWATER
FLEETWIDE ASSESSMENT
DRESDEN GENERATING STATION
MORRIS, ILLINOIS**

| | | | | | | |
|-------------------------------------|---------------------------------------|-------------------|---------------------------------------|-------------------|---------------------------------------|-------------------|
| <i>Sample Location:</i> | <i>MW-DN-109S</i> | <i>MW-DN-109S</i> | <i>MW-DN-110I</i> | <i>MW-DN-110I</i> | <i>MW-DN-110S</i> | <i>MW-DN-110S</i> |
| <i>Sample Identification:</i> | <i>WG-DN-MW-DN-109S-053106-JL-072</i> | <i>Result</i> | <i>WG-DN-MW-DN-110I-053006-JL-068</i> | <i>Result</i> | <i>WG-DN-MW-DN-110S-053006-JL-067</i> | <i>Result</i> |
| <i>Sample Date:</i> | <i>5/31/2006</i> | <i>Error</i> | <i>5/30/2006</i> | <i>Error</i> | <i>5/30/2006</i> | <i>Error</i> |
| | <i>Units</i> | | | | | |
| <i>Target Radionuclides</i> | | | | | | |
| Barium-140 | pCi/L | ND (60) | - | ND (60) | - | ND (60) |
| Cesium-134 | pCi/L | ND (10) | - | ND (10) | - | ND (10) |
| Cesium-137 | pCi/L | ND (18) | - | ND (18) | - | ND (18) |
| Cobalt-58 | pCi/L | ND (15) | - | ND (15) | - | ND (15) |
| Cobalt-60 | pCi/L | ND (15) | - | ND (15) | - | ND (15) |
| Iron-59 | pCi/L | ND (30) | - | ND (30) | - | ND (30) |
| Lanthanum-140 | pCi/L | ND (15) | - | ND (15) | - | ND (15) |
| Manganese-54 | pCi/L | ND (15) | - | ND (15) | - | ND (15) |
| Niobium-95 | pCi/L | ND (10) | - | ND (10) | - | ND (10) |
| Strontium-89/90 (Total) | pCi/L | ND (2) | - | ND (2) | - | ND (2) |
| Strontium-90 | pCi/L | NA | - | NA | - | NA |
| Zinc-65 | pCi/L | ND (30) U* | - | ND (30) | - | ND (30) |
| Zirconium-95 | pCi/L | ND (10) | - | ND (10) | - | ND (10) |
| <i>Non-Target Radionuclides (1)</i> | | | | | | |
| Actinium-228 | pCi/L | RNI | - | RNI | - | RNI |
| Potassium-40 | pCi/L | RNI | - | RNI | - | RNI |
| Radium-226 | pCi/L | RNI | - | RNI | - | RNI |
| Thorium-228 | pCi/L | RNI | - | RNI | - | RNI |
| Thorium-232 | pCi/L | RNI | - | RNI | - | RNI |

Notes:

Samples analyzed by: Teledyne Brown

(1) - These non-targeted radionuclides are included in this table but excluded from the discussion in this report. These radionuclides were either a) naturally occurring and thus not produced by the Station, or b) could be definitively evaluated as being naturally occurring due to the lack of presence of other radionuclides which would otherwise indicate the potential of production from the Station.

(2) - These sample results were considered invalid since the Strontium-89/90 (Total) was less than the Strontium-90

RNI- Radionuclide Not Identified during analysis.

NA - Data not available or not analyzed.

ND () - Non-detect; value in parentheses is the LLD.

LLD - Lower limit of detection.

U* - Compound/Analyte not detected.

Peak not identified, but forced activity concentration exceeds Minimum

Detectable Concentration and 3 sigma.

-- Non-detect value, +/- value not reported.

TABLE 5.3

**ANALYTICAL RESULTS SUMMARY - RADIONUCLIDES IN GROUNDWATER
FLEETWIDE ASSESSMENT
DRESDEN GENERATING STATION
MORRIS, ILLINOIS**

| | | | | | | | |
|-------------------------------------|--------------|---------------------------------------|---------------|---------------------------------------|---------------|---------------------------------------|---------------|
| <i>Sample Location:</i> | | <i>MW-DN-111S</i> | | <i>MW-DN-112I</i> | | <i>MW-DN-112S</i> | |
| <i>Sample Identification:</i> | | <i>WG-DN-MW-DN-111S-053106-JL-073</i> | <i>Result</i> | <i>WG-DN-MW-DN-112I-081006-GL-014</i> | <i>Result</i> | <i>WG-DN-MW-DN-112S-081006-GL-013</i> | <i>Result</i> |
| <i>Sample Date:</i> | | <i>5/31/2006</i> | <i>Error</i> | <i>8/10/2006</i> | <i>Error</i> | <i>8/10/2006</i> | <i>Error</i> |
| | <i>Units</i> | | | | | | |
| <i>Target Radionuclides</i> | | | | | | | |
| Barium-140 | pCi/L | ND (60) | - | ND (60) | - | ND (60) | - |
| Cesium-134 | pCi/L | ND (10) | - | ND (10) | - | ND (10) | - |
| Cesium-137 | pCi/L | ND (18) | - | ND (18) | - | ND (18) | - |
| Cobalt-58 | pCi/L | ND (15) | - | ND (15) | - | ND (15) | - |
| Cobalt-60 | pCi/L | ND (15) | - | ND (15) | - | ND (15) | - |
| Iron-59 | pCi/L | ND (30) | - | ND (30) | - | ND (30) | - |
| Lanthanum-140 | pCi/L | ND (15) | - | ND (15) | - | ND (15) | - |
| Manganese-54 | pCi/L | ND (15) | - | ND (15) | - | ND (15) | - |
| Niobium-95 | pCi/L | ND (10) | - | ND (10) | - | ND (10) | - |
| Strontium-89/90 (Total) | pCi/L | ND (2) | - | ND (2) | - | ND (2) | - |
| Strontium-90 | pCi/L | NA | - | NA | - | NA | - |
| Zinc-65 | pCi/L | ND (30) | - | ND (30) | - | ND (30) | - |
| Zirconium-95 | pCi/L | ND (10) | - | ND (10) | - | ND (10) | - |
| <i>Non-Target Radionuclides (1)</i> | | | | | | | |
| Actinium-228 | pCi/L | RNI | - | RNI | - | RNI | - |
| Potassium-40 | pCi/L | RNI | - | RNI | - | RNI | - |
| Radium-226 | pCi/L | RNI | - | RNI | - | RNI | - |
| Thorium-228 | pCi/L | RNI | - | RNI | - | RNI | - |
| Thorium-232 | pCi/L | RNI | - | RNI | - | RNI | - |

Notes:

Samples analyzed by: Teledyne Brown

- (1) - These non-targeted radionuclides are included in this table but excluded from the discussion in this report. These radionuclides were either a) naturally occurring and thus not produced by the Station, or b) could be definitively evaluated as being naturally occurring due to the lack of presence of other radionuclides which would otherwise indicate the potential of production from the Station.

- (2) - These sample results were considered invalid since the Strontium-89/90 (Total) was less than the Strontium-90

RNI- Radionuclide Not Identified during analysis.

NA - Data not available or not analyzed.

ND () - Non-detect; value in parentheses is the LLD.

LLD - Lower limit of detection.

U* - Compound/Analyte not detected.

Peak not identified, but forced activity concentration exceeds Minimum

Detectable Concentration and 3 sigma.

-- Non-detect value, +/- value not reported.

TABLE 5.3

**ANALYTICAL RESULTS SUMMARY - RADIONUCLIDES IN GROUNDWATER
FLEETWIDE ASSESSMENT
DRESDEN GENERATING STATION
MORRIS, ILLINOIS**

| <i>Sample Location:</i> | | <i>MW-DN-113I</i> | <i>MW-DN-113I</i> | <i>MW-DN-113I</i> | <i>MW-DN-113I</i> | <i>MW-DN-113S</i> | <i>MW-DN-113S</i> |
|-------------------------------------|--------------|---------------------------------------|-------------------|---------------------------------------|-------------------|---------------------------------------|-------------------|
| <i>Sample Identification:</i> | | <i>WG-DN-MW-DN-113I-080906-GL-009</i> | <i>Result</i> | <i>WG-DN-MW-DN-113I-080906-GL-010</i> | <i>Result</i> | <i>WG-DN-MW-DN-113S-080906-GL-008</i> | <i>Result</i> |
| <i>Sample Date:</i> | | <i>8/9/2006</i> | <i>Error</i> | <i>8/9/2006</i> | <i>Error</i> | <i>8/9/2006</i> | <i>Error</i> |
| | <i>Units</i> | | | <i>Duplicate</i> | | | |
| <i>Target Radionuclides</i> | | | | | | | |
| Barium-140 | pCi/L | ND (60) | - | ND (60) | - | ND (60) | - |
| Cesium-134 | pCi/L | ND (10) | - | ND (10) | - | ND (10) U* | - |
| Cesium-137 | pCi/L | ND (18) | - | ND (18) | - | ND (18) | - |
| Cobalt-58 | pCi/L | ND (15) | - | ND (15) | - | ND (15) | - |
| Cobalt-60 | pCi/L | ND (15) | - | ND (15) | - | ND (15) | - |
| Iron-59 | pCi/L | ND (30) | - | ND (30) | - | ND (30) | - |
| Lanthanum-140 | pCi/L | ND (15) | - | ND (15) | - | ND (15) | - |
| Manganese-54 | pCi/L | ND (15) | - | ND (15) | - | ND (15) | - |
| Niobium-95 | pCi/L | ND (10) | - | ND (10) | - | ND (10) U* | - |
| Strontium-89/90 (Total) | pCi/L | ND (2) | - | ND (2) | - | ND (2) | - |
| Strontium-90 | pCi/L | NA | - | NA | - | NA | - |
| Zinc-65 | pCi/L | ND (30) | - | ND (30) | - | ND (30) U* | - |
| Zirconium-95 | pCi/L | ND (10) | - | ND (10) | - | ND (10) | - |
| <i>Non-Target Radionuclides (1)</i> | | | | | | | |
| Actinium-228 | pCi/L | RNI | - | RNI | - | RNI | - |
| Potassium-40 | pCi/L | 59.93 | +/-35.54 | RNI | - | RNI | - |
| Radium-226 | pCi/L | RNI | - | RNI | - | RNI | - |
| Thorium-228 | pCi/L | RNI | - | RNI | - | RNI | - |
| Thorium-232 | pCi/L | RNI | - | RNI | - | RNI | - |

Notes:

Samples analyzed by: Teledyne Brown

- (1) - These non-targeted radionuclides are included in this table but excluded from the discussion in this report. These radionuclides were either a) naturally occurring and thus not produced by the Station, or b) could be definitively evaluated as being naturally occurring due to the lack of presence of other radionuclides which would otherwise indicate the potential of production from the Station.

- (2) - These sample results were considered invalid since the Strontium-89/90 (Total) was less than the Strontium-90

RNI- Radionuclide Not Identified during analysis.

NA - Data not available or not analyzed.

ND () - Non-detect; value in parentheses is the LLD.

LLD - Lower limit of detection.

U* - Compound/Analyte not detected.

Peak not identified, but forced activity concentration exceeds Minimum

Detectable Concentration and 3 sigma.

-- Non-detect value, +/- value not reported.

TABLE 5.3

**ANALYTICAL RESULTS SUMMARY - RADIONUCLIDES IN GROUNDWATER
FLEETWIDE ASSESSMENT
DRESDEN GENERATING STATION
MORRIS, ILLINOIS**

| | | | | | | | |
|-------------------------------------|--------------|---------------------------------------|-------------------|---------------------------------------|-------------------|---------------------------------------|-------------------|
| <i>Sample Location:</i> | | <i>MW-DN-114I</i> | <i>MW-DN-114I</i> | <i>MW-DN-114S</i> | <i>MW-DN-114S</i> | <i>MW-DN-114S</i> | <i>MW-DN-114S</i> |
| <i>Sample Identification:</i> | | <i>WG-DN-MW-DN-114I-081406-GL-025</i> | <i>Result</i> | <i>WG-DN-MW-DN-114S-081106-GL-020</i> | <i>Result</i> | <i>WG-DN-MW-DN-114S-081106-GL-021</i> | <i>Result</i> |
| <i>Sample Date:</i> | | <i>8/14/2006</i> | <i>Error</i> | <i>8/11/2006</i> | <i>Error</i> | <i>8/11/2006</i> | <i>Error</i> |
| | <i>Units</i> | | | | | <i>Duplicate</i> | |
| <i>Target Radionuclides</i> | | | | | | | |
| Barium-140 | pCi/L | ND (60) | - | ND (60) | - | ND (60) | - |
| Cesium-134 | pCi/L | ND (10) | - | ND (10) | - | ND (10) | - |
| Cesium-137 | pCi/L | ND (18) | - | ND (18) | - | ND (18) | - |
| Cobalt-58 | pCi/L | ND (15) | - | ND (15) | - | ND (15) | - |
| Cobalt-60 | pCi/L | ND (15) | - | ND (15) | - | ND (15) | - |
| Iron-59 | pCi/L | ND (30) | - | ND (30) | - | ND (30) | - |
| Lanthanum-140 | pCi/L | ND (15) | - | ND (15) | - | ND (15) | - |
| Manganese-54 | pCi/L | ND (15) | - | ND (15) | - | ND (15) | - |
| Niobium-95 | pCi/L | ND (10) | - | ND (10) | - | ND (10) | - |
| Strontium-89/90 (Total) | pCi/L | ND (2) | - | ND (2) | - | ND (2) | - |
| Strontium-90 | pCi/L | NA | - | NA | - | NA | - |
| Zinc-65 | pCi/L | ND (30) | - | ND (30) | - | ND (30) | - |
| Zirconium-95 | pCi/L | ND (10) | - | ND (10) | - | ND (10) | - |
| <i>Non-Target Radionuclides (1)</i> | | | | | | | |
| Actinium-228 | pCi/L | RNI | - | RNI | - | RNI | - |
| Potassium-40 | pCi/L | RNI | - | RNI | - | RNI | - |
| Radium-226 | pCi/L | RNI | - | RNI | - | RNI | - |
| Thorium-228 | pCi/L | RNI | - | RNI | - | RNI | - |
| Thorium-232 | pCi/L | RNI | - | RNI | - | RNI | - |

Notes:

Samples analyzed by: Teledyne Brown

- (1) - These non-targeted radionuclides are included in this table but excluded from the discussion in this report. These radionuclides were either a) naturally occurring and thus not produced by the Station, or b) could be definitively evaluated as being naturally occurring due to the lack of presence of other radionuclides which would otherwise indicate the potential of production from the Station.

- (2) - These sample results were considered invalid since the Strontium-89/90 (Total) was less than the Strontium-90

RNI- Radionuclide Not Identified during analysis.

NA - Data not available or not analyzed.

ND () - Non-detect; value in parentheses is the LLD.

LLD - Lower limit of detection.

U* - Compound/ Analyte not detected.

Peak not identified, but forced activity concentration exceeds Minimum

Detectable Concentration and 3 sigma.

-- Non-detect value, +/- value not reported.

TABLE 5.3

**ANALYTICAL RESULTS SUMMARY - RADIONUCLIDES IN GROUNDWATER
FLEETWIDE ASSESSMENT
DRESDEN GENERATING STATION
MORRIS, ILLINOIS**

| | | | | | | | |
|-------------------------------------|--------------|---------------------------------------|-------------------|---------------------------------------|-------------------|---------------------------------------|-------------------|
| <i>Sample Location:</i> | | <i>MW-DN-115I</i> | <i>MW-DN-115I</i> | <i>MW-DN-115S</i> | <i>MW-DN-115S</i> | <i>MW-DN-116I</i> | <i>MW-DN-116I</i> |
| <i>Sample Identification:</i> | | <i>WG-DN-MW-DN-115I-081106-GL-019</i> | <i>Result</i> | <i>WG-DN-MW-DN-115S-081406-GL-024</i> | <i>Result</i> | <i>WG-DN-MW-DN-116I-080906-GL-011</i> | <i>Result</i> |
| <i>Sample Date:</i> | | <i>8/11/2006</i> | <i>Error</i> | <i>8/14/2006</i> | <i>Error</i> | <i>8/9/2006</i> | <i>Error</i> |
| | <i>Units</i> | | | | | | |
| <i>Target Radionuclides</i> | | | | | | | |
| Barium-140 | pCi/L | ND (60) | - | ND (60) | - | ND (60) | - |
| Cesium-134 | pCi/L | ND (10) | - | ND (10) | - | ND (10) | - |
| Cesium-137 | pCi/L | ND (18) | - | ND (18) | - | ND (18) | - |
| Cobalt-58 | pCi/L | ND (15) | - | ND (15) | - | ND (15) | - |
| Cobalt-60 | pCi/L | ND (15) | - | ND (15) | - | ND (15) | - |
| Iron-59 | pCi/L | ND (30) | - | ND (30) | - | ND (30) | - |
| Lanthanum-140 | pCi/L | ND (15) | - | ND (15) | - | ND (15) | - |
| Manganese-54 | pCi/L | ND (15) | - | ND (15) | - | ND (15) | - |
| Niobium-95 | pCi/L | ND (10) | - | ND (10) | - | ND (10) | - |
| Strontium-89/90 (Total) | pCi/L | ND (2) | - | ND (2) | - | ND (2) | - |
| Strontium-90 | pCi/L | NA | - | NA | - | NA | - |
| Zinc-65 | pCi/L | ND (30) | - | ND (30) | - | ND (30) | - |
| Zirconium-95 | pCi/L | ND (10) | - | ND (10) | - | ND (10) | - |
| <i>Non-Target Radionuclides (1)</i> | | | | | | | |
| Actinium-228 | pCi/L | RNI | - | RNI | - | RNI | - |
| Potassium-40 | pCi/L | RNI | - | RNI | - | RNI | - |
| Radium-226 | pCi/L | RNI | - | RNI | - | RNI | - |
| Thorium-228 | pCi/L | RNI | - | RNI | - | RNI | - |
| Thorium-232 | pCi/L | RNI | - | RNI | - | RNI | - |

Notes:

Samples analyzed by: Teledyne Brown

(1) - These non-targeted radionuclides are included in this table but excluded from the discussion in this report. These radionuclides were either a) naturally occurring and thus not produced by the Station, or b) could be definitively evaluated as being naturally occurring due to the lack of presence of other radionuclides which would otherwise indicate the potential of production from the Station.

(2) - These sample results were considered invalid since the Strontium-89/90 (Total) was less than the Strontium-90

RNI- Radionuclide Not Identified during analysis.

NA - Data not available or not analyzed.

ND () - Non-detect; value in parentheses is the LLD.

LLD - Lower limit of detection.

U* - Compound/Analyte not detected.

Peak not identified, but forced activity concentration exceeds Minimum

Detectable Concentration and 3 sigma.

-- Non-detect value, +/- value not reported.

TABLE 5.3

**ANALYTICAL RESULTS SUMMARY - RADIONUCLIDES IN GROUNDWATER
FLEETWIDE ASSESSMENT
DRESDEN GENERATING STATION
MORRIS, ILLINOIS**

| | | | | | | | |
|-------------------------------------|--------------|---------------------------------------|-------------------|---------------------------------------|-------------------|---------------------------------------|-------------------|
| <i>Sample Location:</i> | | <i>MW-DN-116S</i> | <i>MW-DN-116S</i> | <i>MW-DN-117I</i> | <i>MW-DN-117I</i> | <i>MW-DN-118S</i> | <i>MW-DN-118S</i> |
| <i>Sample Identification:</i> | | <i>WG-DN-MW-DN-116S-080906-GL-012</i> | <i>Result</i> | <i>WG-DN-MW-DN-117I-081006-GL-015</i> | <i>Result</i> | <i>WG-DN-MW-DN-118S-081006-GL-016</i> | <i>Result</i> |
| <i>Sample Date:</i> | | <i>8/9/2006</i> | <i>Error</i> | <i>8/10/2006</i> | <i>Error</i> | <i>8/10/2006</i> | <i>Error</i> |
| | <i>Units</i> | | | | | | |
| <i>Target Radionuclides</i> | | | | | | | |
| Barium-140 | pCi/L | ND (60) | - | ND (60) | - | ND (60) | - |
| Cesium-134 | pCi/L | ND (10) | - | ND (10) | - | ND (10) | - |
| Cesium-137 | pCi/L | ND (18) | - | ND (18) | - | ND (18) | - |
| Cobalt-58 | pCi/L | ND (15) | - | ND (15) | - | ND (15) | - |
| Cobalt-60 | pCi/L | ND (15) | - | ND (15) | - | ND (15) | - |
| Iron-59 | pCi/L | ND (30) | - | ND (30) | - | ND (30) | - |
| Lanthanum-140 | pCi/L | ND (15) | - | ND (15) | - | ND (15) | - |
| Manganese-54 | pCi/L | ND (15) | - | ND (15) | - | ND (15) | - |
| Niobium-95 | pCi/L | ND (10) | - | ND (10) | - | ND (10) | - |
| Strontium-89/90 (Total) | pCi/L | ND (2) | - | ND (2) | - | ND (2) | - |
| Strontium-90 | pCi/L | NA | - | NA | - | NA | - |
| Zinc-65 | pCi/L | ND (30) | - | ND (30) | - | ND (30) | - |
| Zirconium-95 | pCi/L | ND (10) | - | ND (10) | - | ND (10) | - |
| <i>Non-Target Radionuclides (1)</i> | | | | | | | |
| Actinium-228 | pCi/L | RNI | - | RNI | - | RNI | - |
| Potassium-40 | pCi/L | RNI | - | RNI | - | RNI | - |
| Radium-226 | pCi/L | RNI | - | RNI | - | RNI | - |
| Thorium-228 | pCi/L | RNI | - | RNI | - | RNI | - |
| Thorium-232 | pCi/L | RNI | - | RNI | - | RNI | - |

Notes:

Samples analyzed by: Teledyne Brown

(1) - These non-targeted radionuclides are included in this table but excluded from the discussion in this report. These radionuclides were either a) naturally occurring and thus not produced by the Station, or b) could be definitively evaluated as being naturally occurring due to the lack of presence of other radionuclides which would otherwise indicate the potential of production from the Station.

(2) - These sample results were considered invalid since the Strontium-89/90 (Total) was less than the Strontium-90

RNI- Radionuclide Not Identified during analysis.

NA - Data not available or not analyzed.

ND () - Non-detect; value in parentheses is the LLD.

LLD - Lower limit of detection.

U* - Compound/Analyte not detected.

Peak not identified, but forced activity concentration exceeds Minimum

Detectable Concentration and 3 sigma.

-- Non-detect value, +/- value not reported.

TABLE 5.3

**ANALYTICAL RESULTS SUMMARY - RADIONUCLIDES IN GROUNDWATER
FLEETWIDE ASSESSMENT
DRESDEN GENERATING STATION
MORRIS, ILLINOIS**

| <i>Sample Location:</i> | | <i>MW-DN-119I</i> | <i>MW-DN-119I</i> | <i>MW-DN-119S</i> | <i>MW-DN-119S</i> | <i>MW-DN-120I</i> | <i>MW-DN-120I</i> |
|-------------------------------------|--------------|---------------------------------------|-------------------|---------------------------------------|-------------------|---------------------------------------|-------------------|
| <i>Sample Identification:</i> | | <i>WG-DN-MW-DN-119I-081106-GL-018</i> | <i>Result</i> | <i>WG-DN-MW-DN-119S-081106-GL-017</i> | <i>Result</i> | <i>WG-DN-MW-DN-120I-080806-GL-006</i> | <i>Result</i> |
| <i>Sample Date:</i> | | <i>8/11/2006</i> | <i>Error</i> | <i>8/11/2006</i> | <i>Error</i> | <i>8/8/2006</i> | <i>Error</i> |
| | <i>Units</i> | | | | | | |
| <i>Target Radionuclides</i> | | | | | | | |
| Barium-140 | pCi/L | ND (60) | - | ND (60) | - | ND (60) | - |
| Cesium-134 | pCi/L | ND (10) | - | ND (10) | - | ND (10) | - |
| Cesium-137 | pCi/L | ND (18) | - | ND (18) | - | ND (18) | - |
| Cobalt-58 | pCi/L | ND (15) | - | ND (15) | - | ND (15) | - |
| Cobalt-60 | pCi/L | ND (15) | - | ND (15) | - | ND (15) | - |
| Iron-59 | pCi/L | ND (30) | - | ND (30) | - | ND (30) | - |
| Lanthanum-140 | pCi/L | ND (15) | - | ND (15) | - | ND (15) | - |
| Manganese-54 | pCi/L | ND (15) | - | ND (15) | - | ND (15) | - |
| Niobium-95 | pCi/L | ND (10) | - | ND (10) | - | ND (10) | - |
| Strontium-89/90 (Total) | pCi/L | ND (2) | - | ND (2) | - | ND (2) | - |
| Strontium-90 | pCi/L | NA | - | NA | - | NA | - |
| Zinc-65 | pCi/L | ND (30) | - | ND (30) | - | ND (30) | - |
| Zirconium-95 | pCi/L | ND (10) | - | ND (10) | - | ND (10) | - |
| <i>Non-Target Radionuclides (1)</i> | | | | | | | |
| Actinium-228 | pCi/L | RNI | - | RNI | - | RNI | - |
| Potassium-40 | pCi/L | RNI | - | RNI | - | 102.5 | +/-50.21 |
| Radium-226 | pCi/L | RNI | - | RNI | - | RNI | - |
| Thorium-228 | pCi/L | RNI | - | RNI | - | RNI | - |
| Thorium-232 | pCi/L | RNI | - | RNI | - | RNI | - |

Notes:

Samples analyzed by: Teledyne Brown

(1) - These non-targeted radionuclides are included in this table but excluded from the discussion in this report. These radionuclides were either a) naturally occurring and thus not produced by the Station, or b) could be definitively evaluated as being naturally occurring due to the lack of presence of other radionuclides which would otherwise indicate the potential of production from the Station.

(2) - These sample results were considered invalid since the Strontium-89/90 (Total) was less than the Strontium-90

RNI- Radionuclide Not Identified during analysis.

NA - Data not available or not analyzed.

ND () - Non-detect; value in parentheses is the LLD.

LLD - Lower limit of detection.

U* - Compound / Analyte not detected.

Peak not identified, but forced activity concentration exceeds Minimum

Detectable Concentration and 3 sigma.

- - Non-detect value, +/- value not reported.

TABLE 5.3

**ANALYTICAL RESULTS SUMMARY - RADIONUCLIDES IN GROUNDWATER
FLEETWIDE ASSESSMENT
DRESDEN GENERATING STATION
MORRIS, ILLINOIS**

| <i>Sample Location:</i> | | <i>MW-DN-120S</i> | <i>MW-DN-120S</i> | <i>MW-DN-121S</i> | <i>MW-DN-121S</i> | <i>MW-DN-122I</i> | <i>MW-DN-122I</i> |
|-------------------------------------|--------------|---------------------------------------|-------------------|---------------------------------------|-------------------|---------------------------------------|-------------------|
| <i>Sample Identification:</i> | | <i>WG-DN-MW-DN-120S-080806-GL-007</i> | <i>Result</i> | <i>WG-DN-MW-DN-121S-080806-GL-003</i> | <i>Result</i> | <i>WG-DN-MW-DN-122I-080806-GL-001</i> | <i>Result</i> |
| <i>Sample Date:</i> | | <i>8/8/2006</i> | <i>Error</i> | <i>8/8/2006</i> | <i>Error</i> | <i>8/8/2006</i> | <i>Error</i> |
| | <i>Units</i> | | | | | | |
| Target Radionuclides | | | | | | | |
| Barium-140 | pCi/L | ND (60) | - | ND (60) | - | ND (60) | - |
| Cesium-134 | pCi/L | ND (10) | - | ND (10) | - | ND (10) | - |
| Cesium-137 | pCi/L | ND (18) | - | ND (18) | - | ND (18) | - |
| Cobalt-58 | pCi/L | ND (15) | - | ND (15) | - | ND (15) | - |
| Cobalt-60 | pCi/L | ND (15) | - | ND (15) | - | ND (15) | - |
| Iron-59 | pCi/L | ND (30) | - | ND (30) | - | ND (30) | - |
| Lanthanum-140 | pCi/L | ND (15) | - | ND (15) | - | ND (15) | - |
| Manganese-54 | pCi/L | ND (15) | - | ND (15) | - | ND (15) | - |
| Niobium-95 | pCi/L | ND (10) | - | ND (10) U* | - | ND (10) | - |
| Strontium-89/90 (Total) | pCi/L | ND (2) | - | ND (2) | - | ND (2) | - |
| Strontium-90 | pCi/L | NA | - | NA | - | NA | - |
| Zinc-65 | pCi/L | ND (30) | - | ND (30) | - | ND (30) | - |
| Zirconium-95 | pCi/L | ND (10) | - | ND (10) | - | ND (10) | - |
| Non-Target Radionuclides (1) | | | | | | | |
| Actinium-228 | pCi/L | RNI | - | RNI | - | RNI | - |
| Potassium-40 | pCi/L | RNI | - | RNI | - | 104.2 | +/-48.34 |
| Radium-226 | pCi/L | RNI | - | RNI | - | RNI | - |
| Thorium-228 | pCi/L | RNI | - | 18.26 | +/-7.47 | RNI | - |
| Thorium-232 | pCi/L | RNI | - | RNI | - | RNI | - |

Notes:

Samples analyzed by: Teledyne Brown

(1) - These non-targeted radionuclides are included in this table but excluded from the discussion in this report. These radionuclides were either a) naturally occurring and thus not produced by the Station, or b) could be definitively evaluated as being naturally occurring due to the lack of presence of other radionuclides which would otherwise indicate the potential of production from the Station.

(2) - These sample results were considered invalid since the Strontium-89/90 (Total) was less than the Strontium-90

RNI- Radionuclide Not Identified during analysis.

NA - Data not available or not analyzed.

ND () - Non-detect; value in parentheses is the LLD.

LLD - Lower limit of detection.

U* - Compound/Analyte not detected.

Peak not identified, but forced activity concentration exceeds Minimum

Detectable Concentration and 3 sigma.

-- Non-detect value, +/- value not reported.

TABLE 5.3

**ANALYTICAL RESULTS SUMMARY - RADIONUCLIDES IN GROUNDWATER
FLEETWIDE ASSESSMENT
DRESDEN GENERATING STATION
MORRIS, ILLINOIS**

| | | | | | |
|-------------------------------------|--------------|---------------------------------------|-------------------|---------------------------------------|-------------------|
| <i>Sample Location:</i> | | <i>MW-DN-122S</i> | <i>MW-DN-122S</i> | <i>MW-DN-123I</i> | <i>MW-DN-123I</i> |
| <i>Sample Identification:</i> | | <i>WG-DN-MW-DN-122S-080806-GL-002</i> | <i>Result</i> | <i>WG-DN-MW-DN-123I-080806-GL-004</i> | <i>Result</i> |
| <i>Sample Date:</i> | | <i>8/8/2006</i> | <i>Error</i> | <i>8/8/2006</i> | <i>Error</i> |
| | <i>Units</i> | | | | |
| <i>Target Radionuclides</i> | | | | | |
| Barium-140 | pCi/L | ND (60) | - | ND (60) | - |
| Cesium-134 | pCi/L | ND (10) U* | - | ND (10) | - |
| Cesium-137 | pCi/L | ND (18) | - | ND (18) | - |
| Cobalt-58 | pCi/L | ND (15) | - | ND (15) | - |
| Cobalt-60 | pCi/L | ND (15) | - | ND (15) | - |
| Iron-59 | pCi/L | ND (30) | - | ND (30) | - |
| Lanthanum-140 | pCi/L | ND (15) | - | ND (15) | - |
| Manganese-54 | pCi/L | ND (15) | - | ND (15) | - |
| Niobium-95 | pCi/L | ND (10) U* | - | ND (10) | - |
| Strontium-89/90 (Total) | pCi/L | ND (2) | - | ND (2) | - |
| Strontium-90 | pCi/L | NA | - | NA | - |
| Zinc-65 | pCi/L | ND (30) U* | - | ND (30) | - |
| Zirconium-95 | pCi/L | ND (10) | - | ND (10) | - |
| <i>Non-Target Radionuclides (1)</i> | | | | | |
| Actinium-228 | pCi/L | RNI | - | RNI | - |
| Potassium-40 | pCi/L | RNI | - | RNI | - |
| Radium-226 | pCi/L | RNI | - | RNI | - |
| Thorium-228 | pCi/L | 12.67 | +/-7.215 | RNI | - |
| Thorium-232 | pCi/L | RNI | - | RNI | - |

Notes:

Samples analyzed by: Teledyne Brown

(1) - These non-targeted radionuclides are included in this table but excluded from the discussion in this report. These radionuclides were either a) naturally occurring and thus not produced by the Station, or b) could be definitively evaluated as being naturally occurring due to the lack of presence of other radionuclides which would otherwise indicate the potential of production from the Station.

(2) - These sample results were considered invalid since the Strontium-89/90 (Total) was less than the Strontium-90

RNI- Radionuclide Not Identified during analysis.

NA - Data not available or not analyzed.

ND () - Non-detect; value in parentheses is the LLD.

LLD - Lower limit of detection.

U* - Compound/ Analyte not detected.

Peak not identified, but forced activity concentration exceeds Minimum

Detectable Concentration and 3 sigma.

-- Non-detect value, +/- value not reported.

TABLE 5.4

**ANALYTICAL RESULTS SUMMARY - TRITIUM IN SURFACE WATER
FLEETWIDE ASSESSMENT
DRESDEN GENERATING STATION
MORRIS, ILLINOIS**

| <i>Sample Location</i> | <i>Sample Identification</i> | <i>QC Sample</i> | <i>Sample Date</i> | <i>Tritium (pCi/L)</i> | <i>Result Result Error</i> |
|------------------------|------------------------------|------------------|--------------------|------------------------|--------------------------------|
| SW-DN-101 | WS-DN-SW-101-053106-JH-023 | | 5/31/2006 | ND (200) | - |
| SW-DN-102 | WS-DN-SW-102-053106-JH-024 | | 5/31/2006 | ND (200) | - |
| SW-DN-103 | WS-DN-SW-103-053106-JH-021 | | 5/31/2006 | ND (200) | - |
| SW-DN-104 | WS-DN-SW-104-060106-JH-026 | | 6/1/2006 | ND (200) | - |
| SW-DN-105 | WS-DN-SW-105-060106-JH-025 | | 6/1/2006 | ND (200) | - |
| SW-DN-106 | WS-DN-SW-106-060106-JH-027 | | 6/1/2006 | ND (200) | - |
| SW-DN-106 | WS-DN-SW-106-060106-JH-028 | Duplicate (027) | 6/1/2006 | ND (200) | - |

Notes:

Samples analyzed by: Teledyne Brown Engineering, Inc.

QC - Quality Control

ND () - Non-detect; value in parentheses is the LLD.

LLD - Lower limit of detection.

- - Non-detect value, +/- value not reported.

TABLE 5.5

**ANALYTICAL RESULTS SUMMARY - RADIONUCLIDES IN SURFACE WATER
FLEETWIDE ASSESSMENT
DRESDEN GENERATING STATION
MORRIS, ILLINOIS**

| | | | | | | | | |
|-------------------------------------|--------------|-----------------------------------|------------------|-----------------------------------|------------------|-----------------------------------|------------------|-----------------------------------|
| <i>Sample Location:</i> | | <i>SW-DN-101</i> | <i>SW-DN-101</i> | <i>SW-DN-102</i> | <i>SW-DN-102</i> | <i>SW-DN-103</i> | <i>SW-DN-103</i> | <i>SW-DN-104</i> |
| <i>Sample Identification:</i> | | <i>WS-DN-SW-101-053106-JH-023</i> | <i>Result</i> | <i>WS-DN-SW-102-053106-JH-024</i> | <i>Result</i> | <i>WS-DN-SW-103-053106-JH-021</i> | <i>Result</i> | <i>WS-DN-SW-104-060106-JH-026</i> |
| <i>Sample Date:</i> | | <i>5/31/2006</i> | <i>Error</i> | <i>5/31/2006</i> | <i>Error</i> | <i>5/31/2006</i> | <i>Error</i> | <i>6/1/2006</i> |
| | <i>Units</i> | | | | | | | |
| <i>Target Radionuclides</i> | | | | | | | | |
| Barium-140 | pCi/L | ND (60) | - | ND (60) | - | ND (60) | - | ND (60) |
| Cesium-134 | pCi/L | ND (10) | - | ND (10) | - | ND (10) | - | ND (10) |
| Cesium-137 | pCi/L | ND (18) | - | ND (18) | - | ND (18) | - | ND (18) |
| Cobalt-58 | pCi/L | ND (15) | - | ND (15) | - | ND (15) | - | ND (15) |
| Cobalt-60 | pCi/L | ND (15) | - | ND (15) | - | ND (15) | - | ND (15) |
| Iron-59 | pCi/L | ND (30) | - | ND (30) | - | ND (30) | - | ND (30) |
| Lanthanum-140 | pCi/L | ND (15) | - | ND (15) | - | ND (15) | - | ND (15) |
| Manganese-54 | pCi/L | ND (15) | - | ND (15) | - | ND (15) | - | ND (15) |
| Niobium-95 | pCi/L | ND (10) | - | ND (10) | - | ND (10) | - | ND (10) |
| Strontium-89/90 (Total) | pCi/L | ND (2) | - | ND (2) | - | ND (2) | - | ND (2) |
| Zinc-65 | pCi/L | ND (30) | - | ND (30) | - | ND (30) | - | ND (30) |
| Zirconium-95 | pCi/L | ND (10) | - | ND (10) | - | ND (10) | - | ND (10) |
| <i>Non-Target Radionuclides (1)</i> | | | | | | | | |
| Potassium-40 | pCi/L | RNI | - | RNI | - | RNI | - | RNI |

Notes:

Samples analyzed by: Teledyne Brown

(1) - These non-targeted radionuclides are included in this table but excluded from the discussion in this report. These radionuclides were either a) naturally occurring and thus not produced by the Station, or b) could be definitively evaluated as being naturally occurring due to the lack of presence of other radionuclides which would otherwise indicate the potential of production from the Station.
RNI- Radionuclide Not Identified during analysis.
ND () - Non-detect; value in parentheses is the LLD.
LLD - Lower limit of detection.

-- Non-detect value, +/- value not reported.

TABLE 5.5

**ANALYTICAL RESULTS SUMMARY - RADIONUCLIDES IN SURFACE WATER
FLEETWIDE ASSESSMENT
DRESDEN GENERATING STATION
MORRIS, ILLINOIS**

| <i>Sample Location:</i> | | SW-DN-104 | SW-DN-105 | SW-DN-105 | SW-DN-106 | SW-DN-106 | SW-DN-106 | SW-DN-106 |
|-------------------------------------|-------|---------------|----------------------------|---------------|----------------------------|---------------|------------------------------|---------------|
| <i>Sample Identification:</i> | | <i>Result</i> | WS-DN-SW-105-060106-JH-025 | <i>Result</i> | WS-DN-SW-106-060106-JH-027 | <i>Result</i> | WS-DN-SW-106-060106-JH-028 | <i>Result</i> |
| <i>Sample Date:</i> | | <i>Error</i> | 6/1/2006 | <i>Error</i> | 6/1/2006 | <i>Error</i> | 6/1/2006 <i>Duplicate</i> | <i>Error</i> |
| | | <i>Units</i> | | | | | | |
| Target Radionuclides | | | | | | | | |
| Barium-140 | pCi/L | - | ND (60) | - | ND (60) | - | ND (60) | - |
| Cesium-134 | pCi/L | - | ND (10) | - | ND (10) | - | ND (10) | - |
| Cesium-137 | pCi/L | - | ND (18) | - | ND (18) | - | ND (18) | - |
| Cobalt-58 | pCi/L | - | ND (15) | - | ND (15) | - | ND (15) | - |
| Cobalt-60 | pCi/L | - | ND (15) | - | ND (15) | - | ND (15) | - |
| Iron-59 | pCi/L | - | ND (30) | - | ND (30) | - | ND (30) | - |
| Lanthanum-140 | pCi/L | - | ND (15) | - | ND (15) | - | ND (15) | - |
| Manganese-54 | pCi/L | - | ND (15) | - | ND (15) | - | ND (15) | - |
| Niobium-95 | pCi/L | - | ND (10) | - | ND (10) | - | ND (10) | - |
| Strontium-89/90 (Total) | pCi/L | - | ND (2) | - | ND (2) | - | ND (2) | - |
| Zinc-65 | pCi/L | - | ND (30) | - | ND (30) | - | ND (30) | - |
| Zirconium-95 | pCi/L | - | ND (10) | - | ND (10) | - | ND (10) | - |
| Non-Target Radionuclides (1) | | | | | | | | |
| Potassium-40 | pCi/L | - | 84.3 | +/-42.86 | RNI | - | RNI | - |

Notes:

Samples analyzed by: Teledyne Brown

(1) - These non-targeted radionuclides are included in this table but excluded from the discussion in this report. These radionuclides were either a) naturally occurring and thus not produced by the Station, or b) could be definitively evaluated as being naturally occurring due to the lack of presence of other radionuclides which would otherwise indicate the potential of production from the Station.

RNI- Radionuclide Not Identified during analysis.

ND () - Non-detect; value in parentheses is the LLD.

LLD - Lower limit of detection.

-- Non-detect value, +/- value not reported.

APPENDIX A

MONITORING WELL LOGS

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE



STRATIGRAPHIC AND INSTRUMENTATION LOG (BEDROCK)

Page 2 of 3

PROJECT NAME: DRESDEN GENERATING STATION
PROJECT NUMBER: 45136-23
CLIENT: EXELON GENERATION COMPANY LLC
LOCATION: MORRIS, ILLINOIS

HOLE DESIGNATION: MW-DN-101I
DATE COMPLETED: May 10, 2006
DRILLING METHOD: 6" Air Rotary - Barber Rig
FIELD PERSONNEL: D. Deitner

| DEPTH ft BGS | STRATIGRAPHIC DESCRIPTION & REMARKS | ELEV. ft AMSL | Monitoring Well | RUN NUMBER | CORE RECOVERY % | RQD % |
|-----------------|--|---------------------|----------------------|---------------|--------------------|-------|
| 8 | SANDSTONE - hard, moist to wet, yellowish brown, changing to light gray | 509.08 | 6" Ø Borehole | | | |
| 10 | | | Bentonite Chip Seal | | | |
| 12 | | | | | | |
| 14 | | | | | | |
| 16 | | | | | | |
| 18 | | | | | | |
| 20 | | | 2" Ø PVC Well Casing | | | |
| 22 | | | | | | |
| 24 | | | | | | |
| 26 | | | | | | |
| 28 | | | | | | |
| 30 | | | | | | |
| 32 | | | | | | |
| 34 | LIMESTONE - hard, moist, light gray | 484.08 | 2" Ø PVC Well Casing | | | |
| 36 | LIMESTONE - transitional zone limestone interbedded with shale and sandstone | 482.08 | Bentonite Chip Seal | | | |
| 38 | | | | | | |
| 40 | | | | | | |

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE

BEDROCK LOG 45136-23-N REDWOOD WLOO.GPJ CRA_CORP.GDT 6/13/06



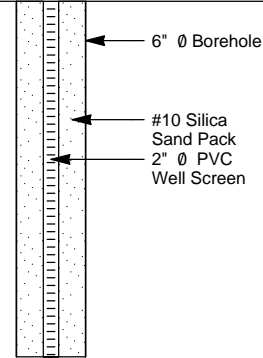
STRATIGRAPHIC AND INSTRUMENTATION LOG (BEDROCK)

Page 3 of 3

PROJECT NAME: DRESDEN GENERATING STATION
PROJECT NUMBER: 45136-23
CLIENT: EXELON GENERATION COMPANY LLC
LOCATION: MORRIS, ILLINOIS

HOLE DESIGNATION: MW-DN-101I
DATE COMPLETED: May 10, 2006
DRILLING METHOD: 6" Air Rotary - Barber Rig
FIELD PERSONNEL: D. Deitner

| DEPTH ft BGS | STRATIGRAPHIC DESCRIPTION & REMARKS | ELEV. ft AMSL | Monitoring Well | RUN NUMBER | CORE RECOVERY % | RQD % |
|-----------------|--|---------------------|-----------------|---------------|--------------------|-------|
| 42 | | | | | | |
| 44 | | | | | | |
| 46 | | | | | | |
| 48 | SHALE - hard very moist, pale green - greenish gray at 48.0ft BGS | 470.08 | | | | |
| 50 | END OF BOREHOLE @ 50.0ft BGS | 467.08 | | | | |
| 52 | | | | | | |
| 54 | | | | | | |
| 56 | | | | | | |
| 58 | | | | | | |
| 60 | | | | | | |
| 62 | | | | | | |
| 64 | | | | | | |
| 66 | | | | | | |
| 68 | | | | | | |
| 70 | | | | | | |
| 72 | | | | | | |
| 74 | | | | | | |



WELL DETAILS
Screened interval:
477.08 to 467.08ft AMSL
40.00 to 50.00ft BGS
Length: 10ft
Diameter: 2in
Slot Size: 10
Material: PVC
Seal:
516.08 to 479.08ft AMSL
1.00 to 38.00ft BGS
Material: Bentonite Chips
Sand Pack:
479.08 to 467.08ft AMSL
38.00 to 50.00ft BGS
Material: #10 Silica Sand

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE

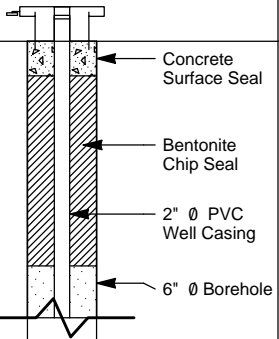


STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

Page 1 of 2

PROJECT NAME: DRESDEN GENERATING STATION
PROJECT NUMBER: 45136-23
CLIENT: EXELON GENERATION COMPANY LLC
LOCATION: MORRIS, ILLINOIS

HOLE DESIGNATION: MW-DN-101S
DATE COMPLETED: May 5, 2006
DRILLING METHOD: 6" Air Rotary - Barber Rig
FIELD PERSONNEL: K. Duwal

| DEPTH ft BGS | STRATIGRAPHIC DESCRIPTION & REMARKS | ELEV. ft AMSL | Monitoring Well | SAMPLE | | | | |
|-----------------|---|---------------------|--|--------|----------|---------|----------|--|
| | | | | NUMBER | INTERVAL | REC (%) | N' VALUE | |
| | TOP OF RISER GROUND SURFACE | 520.30 517.10 |  | | | | | |
| 2 | Overburden not logged, cleared by soft dig. Rock/gravel Fill | | | | | | | |
| 4 | | | | | | | | |
| 6 | | | | | | | | |
| 8 | END OF OVERBURDEN HOLE @ 8.0ft BGS | | | | | | | |
| 10 | | | | | | | | |
| 12 | | | | | | | | |
| 14 | | | | | | | | |
| 16 | | | | | | | | |
| 18 | | | | | | | | |
| 20 | | | | | | | | |
| 22 | | | | | | | | |
| 24 | | | | | | | | |
| 26 | | | | | | | | |
| 28 | | | | | | | | |
| 30 | | | | | | | | |
| 32 | | | | | | | | |
| 34 | | | | | | | | |
| 36 | | | | | | | | |
| 38 | | | | | | | | |

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE

OVERBURDEN LOG 45136-23-N REDWOOD WLOO.GPJ CRA_CORP.GDT 6/19/06



STRATIGRAPHIC AND INSTRUMENTATION LOG (BEDROCK)

Page 2 of 2

PROJECT NAME: DRESDEN GENERATING STATION
PROJECT NUMBER: 45136-23
CLIENT: EXELON GENERATION COMPANY LLC
LOCATION: MORRIS, ILLINOIS

HOLE DESIGNATION: MW-DN-101S
DATE COMPLETED: May 5, 2006
DRILLING METHOD: 6" Air Rotary - Barber Rig
FIELD PERSONNEL: K. Duwal

| DEPTH ft BGS | STRATIGRAPHIC DESCRIPTION & REMARKS | ELEV. ft AMSL | Monitoring Well | RUN NUMBER | CORE RECOVERY % | RQD % |
|-----------------|-------------------------------------|---------------------|--|---------------|--------------------|-------|
| 8 | SANDSTONE, tan/gray | 509.10 | 6" Ø Borehole | 1 | AR | |
| 10 | | | #10 Silica Sand Pack | | | |
| 12 | | | 2" Ø PVC Well Screen | | | |
| 14 | | | | | | |
| 16 | | | | | | |
| 18 | | | | | | |
| 20 | END OF BOREHOLE @ 20.0ft BGS | 497.10 | | | | |
| 22 | | | WELL DETAILS Screened interval: 507.10 to 497.10ft AMSL 10.00 to 20.00ft BGS Length: 10ft Diameter: 2in Slot Size: 10 Material: Sch 40 PVC Seal: 516.10 to 510.60ft AMSL 1.00 to 6.50ft BGS Material: Bentonite Chips Sand Pack: 510.60 to 497.10ft AMSL 6.50 to 20.00ft BGS Material: Silica Sand | | | |
| 24 | | | | | | |
| 26 | | | | | | |
| 28 | | | | | | |
| 30 | | | | | | |
| 32 | | | | | | |
| 34 | | | | | | |
| 36 | | | | | | |
| 38 | | | | | | |
| 40 | | | | | | |
| 42 | | | | | | |
| 44 | | | | | | |

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE

BEDROCK LOG 45136-23-N REDWOOD WLOO.GPJ CRA_CORP.GDT 6/13/06

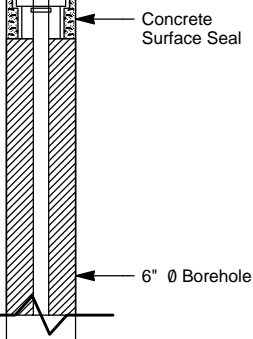


STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

Page 1 of 3

PROJECT NAME: DRESDEN GENERATING STATION
PROJECT NUMBER: 45136-23
CLIENT: EXELON GENERATION COMPANY LLC
LOCATION: MORRIS, ILLINOIS

HOLE DESIGNATION: MW-DN-102I
DATE COMPLETED: May 10, 2006
DRILLING METHOD: 6" Air Rotary - Barber Rig
FIELD PERSONNEL: D. Deitner

| DEPTH ft BGS | STRATIGRAPHIC DESCRIPTION & REMARKS | ELEV. ft AMSL | Monitoring Well | SAMPLE | | | | |
|-----------------|--|---------------------|--|--------|----------|---------|----------|--|
| | | | | NUMBER | INTERVAL | REC (%) | N' VALUE | |
| | GROUND SURFACE TOP OF CASING | 516.91 516.63 | | | | | | |
| 2 | Overburden not logged. Cleared using soft dig. | |  | | | | | |
| 4 | | | | | | | | |
| 6 | | | | | | | | |
| 8 | END OF OVERBURDEN HOLE @ 8.0ft BGS | | | | | | | |
| 10 | | | | | | | | |
| 12 | | | | | | | | |
| 14 | | | | | | | | |
| 16 | | | | | | | | |
| 18 | | | | | | | | |
| 20 | | | | | | | | |
| 22 | | | | | | | | |
| 24 | | | | | | | | |
| 26 | | | | | | | | |
| 28 | | | | | | | | |
| 30 | | | | | | | | |
| 32 | | | | | | | | |
| 34 | | | | | | | | |

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE

OVERBURDEN LOG 45136-23-N REDWOOD WLOO.GPJ CRA_CORP.GDT 6/13/06



STRATIGRAPHIC AND INSTRUMENTATION LOG (BEDROCK)

Page 2 of 3

PROJECT NAME: DRESDEN GENERATING STATION
PROJECT NUMBER: 45136-23
CLIENT: EXELON GENERATION COMPANY LLC
LOCATION: MORRIS, ILLINOIS

HOLE DESIGNATION: MW-DN-102I
DATE COMPLETED: May 10, 2006
DRILLING METHOD: 6" Air Rotary - Barber Rig
FIELD PERSONNEL: D. Deitner

| DEPTH ft BGS | STRATIGRAPHIC DESCRIPTION & REMARKS | ELEV. ft AMSL | Monitoring Well | RUN NUMBER | CORE RECOVERY % | RQD % |
|-----------------|---|---------------------|----------------------|---------------|--------------------|-------|
| 8 | SANDSTONE - hard, moist to very moist, light gray, trace mica | 508.91 | 6" Ø Borehole | | | |
| 10 | | | Bentonite Chip Seal | | | |
| 12 | | | | | | |
| 14 | | | | | | |
| 16 | | | | | | |
| 18 | | | | | | |
| 20 | | | 2" Ø PVC Well Casing | | | |
| 22 | LIMESTONE - hard, moist, light gray | 495.41 | | | | |
| 24 | | | | | | |
| 26 | | | | | | |
| 28 | | | | | | |
| 30 | | | | | | |
| 32 | | | | | | |
| 34 | | | | | | |
| 36 | | | | | | |
| 38 | LIMESTONE - transitional zone, limestone with shale interbedded | 478.91 | | | | |
| 40 | | | | | | |

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE

BEDROCK LOG 45136-23-N REDWOOD WLOO.GPJ CRA_CORP.GDT 6/13/06



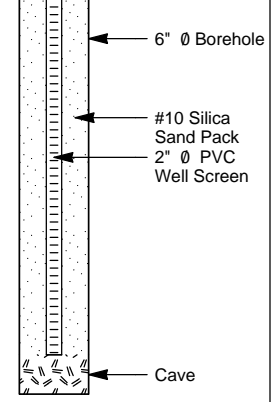
STRATIGRAPHIC AND INSTRUMENTATION LOG (BEDROCK)

Page 3 of 3

PROJECT NAME: DRESDEN GENERATING STATION
PROJECT NUMBER: 45136-23
CLIENT: EXELON GENERATION COMPANY LLC
LOCATION: MORRIS, ILLINOIS

HOLE DESIGNATION: MW-DN-102I
DATE COMPLETED: May 10, 2006
DRILLING METHOD: 6" Air Rotary - Barber Rig
FIELD PERSONNEL: D. Deitner

| DEPTH ft BGS | STRATIGRAPHIC DESCRIPTION & REMARKS | ELEV. ft AMSL | Monitoring Well | RUN NUMBER | CORE RECOVERY % | RQD % |
|-----------------|---|---------------------|-----------------|---------------|--------------------|-------|
| 42 | | | | | | |
| 44 | | | | | | |
| 46 | | | | | | |
| 48 | | | | | | |
| 50 | SHALE - hard, very moist, pale green to grayish green | 467.91 | | | | |
| 52 | END OF BOREHOLE @ 51.0ft BGS | 465.91 | | | | |
| 54 | | | | | | |
| 56 | | | | | | |
| 58 | | | | | | |
| 60 | | | | | | |
| 62 | | | | | | |
| 64 | | | | | | |
| 66 | | | | | | |
| 68 | | | | | | |
| 70 | | | | | | |
| 72 | | | | | | |
| 74 | | | | | | |



WELL DETAILS
Screened interval:
476.91 to 466.91ft AMSL
40.00 to 50.00ft BGS
Length: 10ft
Diameter: 2in
Slot Size: 10
Material: Sch 40 PVC
Seal:
515.91 to 478.91ft AMSL
1.00 to 38.00ft BGS
Material: Bentonite Chips
Sand Pack:
478.91 to 466.91ft AMSL
38.00 to 50.00ft BGS
Material: #10 Silica Sand

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE

BEDROCK LOG 45136-23-N REDWOOD WLOO.GPJ CRA_CORP.GDT 6/13/06

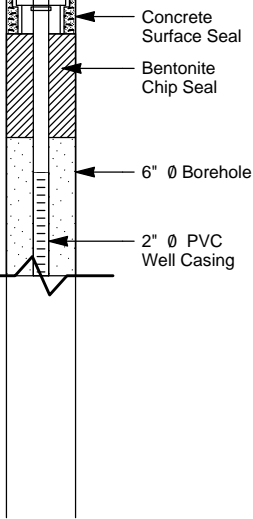


STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

Page 1 of 2

PROJECT NAME: DRESDEN GENERATING STATION
PROJECT NUMBER: 45136-23
CLIENT: EXELON GENERATION COMPANY LLC
LOCATION: MORRIS, ILLINOIS

HOLE DESIGNATION: MW-DN-102S
DATE COMPLETED: May 4, 2006
DRILLING METHOD: 6" Air Rotary - Barber Rig/Tricone
FIELD PERSONNEL: D. Deitner

| DEPTH ft BGS | STRATIGRAPHIC DESCRIPTION & REMARKS | ELEV. ft AMSL | Monitoring Well | SAMPLE | | | | |
|-----------------|--|---------------------|---|--------|----------|---------|----------|--|
| | | | | NUMBER | INTERVAL | REC (%) | N' VALUE | |
| | GROUND SURFACE TOP OF CASING | 516.98 516.68 | | | | | | |
| 2 | Overburden not logged. Cleared using soft dig. | |  | | | | | |
| 4 | | | | | | | | |
| 6 | END OF OVERBURDEN HOLE @ 8.0ft BGS | | | | | | | |
| 8 | | | | | | | | |
| 10 | | | | | | | | |
| 12 | | | | | | | | |
| 14 | | | | | | | | |
| 16 | | | | | | | | |
| 18 | | | | | | | | |
| 20 | | | | | | | | |
| 22 | | | | | | | | |
| 24 | | | | | | | | |
| 26 | | | | | | | | |
| 28 | | | | | | | | |
| 30 | | | | | | | | |
| 32 | | | | | | | | |
| 34 | | | | | | | | |
| 36 | | | | | | | | |
| 38 | | | | | | | | |
| | | | | | | | | |

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE

OVERBURDEN LOG 45136-23-N REDWOOD WLOG.GPJ CRA_CORP.GDT 6/13/06

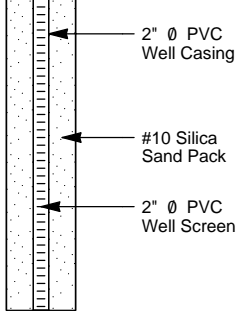


STRATIGRAPHIC AND INSTRUMENTATION LOG (BEDROCK)

Page 2 of 2

PROJECT NAME: DRESDEN GENERATING STATION
PROJECT NUMBER: 45136-23
CLIENT: EXELON GENERATION COMPANY LLC
LOCATION: MORRIS, ILLINOIS

HOLE DESIGNATION: MW-DN-102S
DATE COMPLETED: May 4, 2006
DRILLING METHOD: 6" Air Rotary - Barber Rig/Tricone
FIELD PERSONNEL: D. Deitner

| DEPTH ft BGS | STRATIGRAPHIC DESCRIPTION & REMARKS | ELEV. ft AMSL | Monitoring Well | RUN NUMBER | CORE RECOVERY % | RQD % |
|-----------------|--|---------------------|---|---------------|--------------------|-------|
| 8 | SANDSTONE - hard, moist to very moist, dark brown changing to yellowish brown changing to light gray | 508.98 |  | | | |
| 10 | | | | | | |
| 12 | | | | | | |
| 14 | END OF BOREHOLE @ 15.0ft BGS | 501.98 | <p><u>WELL DETAILS</u> Screened interval: 511.98 to 501.98ft AMSL 5.00 to 15.00ft BGS Length: 10ft Diameter: 2in Slot Size: 10 Material: Sch 40 PVC Seal: 515.98 to 512.98ft AMSL 1.00 to 4.00ft BGS Material: Bentonite Chips Sand Pack: 512.98 to 501.98ft AMSL 4.00 to 15.00ft BGS Material: #10 Silica Sand</p> | | | |
| 16 | | | | | | |
| 18 | | | | | | |
| 20 | | | | | | |
| 22 | | | | | | |
| 24 | | | | | | |
| 26 | | | | | | |
| 28 | | | | | | |
| 30 | | | | | | |
| 32 | | | | | | |
| 34 | | | | | | |
| 36 | | | | | | |
| 38 | | | | | | |
| 40 | | | | | | |
| 42 | | | | | | |
| 44 | | | | | | |

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE

BEDROCK LOG 45136-23-N REDWOOD WLOO.GPJ CRA_CORP.GDT 6/13/06

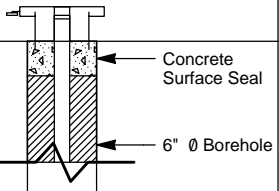


STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

Page 1 of 3

PROJECT NAME: DRESDEN GENERATING STATION
PROJECT NUMBER: 45136-23
CLIENT: EXELON GENERATION COMPANY LLC
LOCATION: MORRIS, ILLINOIS

HOLE DESIGNATION: MW-DN-103I
DATE COMPLETED: May 2, 2006
DRILLING METHOD: 6" Air Rotary - Barber Rig
FIELD PERSONNEL: D. Deitner

| DEPTH ft BGS | STRATIGRAPHIC DESCRIPTION & REMARKS | ELEV. ft AMSL | Monitoring Well | SAMPLE | | | | |
|-----------------|---|---------------------|--|--------|----------|---------|----------|--|
| | | | | NUMBER | INTERVAL | REC (%) | N' VALUE | |
| | TOP OF RISER GROUND SURFACE | 522.72 520.13 |  | | | | | |
| 2 | Overburden not logged. Cleared for utilities using soft dig. | | | | | | | |
| 4 | END OF OVERBURDEN HOLE @ 3.5ft BGS | | | | | | | |
| 6 | | | | | | | | |
| 8 | | | | | | | | |
| 10 | | | | | | | | |
| 12 | | | | | | | | |
| 14 | | | | | | | | |
| 16 | | | | | | | | |
| 18 | | | | | | | | |
| 20 | | | | | | | | |
| 22 | | | | | | | | |
| 24 | | | | | | | | |
| 26 | | | | | | | | |
| 28 | | | | | | | | |
| 30 | | | | | | | | |
| 32 | | | | | | | | |
| 34 | | | | | | | | |
| 36 | | | | | | | | |
| 38 | | | | | | | | |

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE

OVERBURDEN LOG 45136-23-N REDWOOD WLOO.GPJ CRA_CORP.GDT 6/19/06



STRATIGRAPHIC AND INSTRUMENTATION LOG (BEDROCK)

Page 2 of 3

PROJECT NAME: DRESDEN GENERATING STATION
PROJECT NUMBER: 45136-23
CLIENT: EXELON GENERATION COMPANY LLC
LOCATION: MORRIS, ILLINOIS

HOLE DESIGNATION: MW-DN-103I
DATE COMPLETED: May 2, 2006
DRILLING METHOD: 6" Air Rotary - Barber Rig
FIELD PERSONNEL: D. Deitner

| DEPTH ft BGS | STRATIGRAPHIC DESCRIPTION & REMARKS | ELEV. ft AMSL | Monitoring Well | RUN NUMBER | CORE RECOVERY % | RQD % |
|-----------------|--|---------------------|----------------------|---------------|--------------------|-------|
| 4 | SANDSTONE - tan changing to gray, trace mica, moist to very moist | 516.63 | 6" Ø Borehole | | | |
| 6 | | | | | | |
| 8 | | | | | | |
| 10 | | | Bentonite Chip Seal | | | |
| 12 | - becoming harder at 12.5ft BGS | | | | | |
| 14 | | | 2" Ø PVC Well Casing | | | |
| 16 | | | | | | |
| 18 | | | | | | |
| 20 | | | | | | |
| 22 | LIMESTONE - hard, light gray, moist | 497.63 | | | | |
| 24 | | | | | | |
| 26 | | | | | | |
| 28 | | | | | | |
| 30 | | | #10 Silica Sand Pack | | | |
| 32 | | | | | | |
| 34 | | | 2" Ø PVC Well Screen | | | |
| 36 | | | | | | |
| 38 | - wet at 38.0ft BGS | | | | | |
| 40 | LIMESTONE - transitional zone, Limestone and Shale interbedded, less dense | 480.63 | | | | |

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE

BEDROCK LOG 45136-23-N REDWOOD WLOO.GPJ CRA_CORP.GDT 6/19/06



STRATIGRAPHIC AND INSTRUMENTATION LOG (BEDROCK)

Page 3 of 3

PROJECT NAME: DRESDEN GENERATING STATION
PROJECT NUMBER: 45136-23
CLIENT: EXELON GENERATION COMPANY LLC
LOCATION: MORRIS, ILLINOIS

HOLE DESIGNATION: MW-DN-103I
DATE COMPLETED: May 2, 2006
DRILLING METHOD: 6" Air Rotary - Barber Rig
FIELD PERSONNEL: D. Deitner

| DEPTH ft BGS | STRATIGRAPHIC DESCRIPTION & REMARKS | ELEV. ft AMSL | Monitoring Well | RUN NUMBER | CORE RECOVERY % | RQD % |
|-----------------|---|---------------------|----------------------|---------------|--------------------|-------|
| 44 | - water not present in cuttings at 42.0ft BGS | | | | | |
| 46 | SHALE - hard, dark greenish gray, moist | 475.13 | 6" Ø Borehole | | | |
| 48 | | | | | | |
| 50 | | | | | | |
| 52 | | | #10 Silica Sand Pack | | | |
| 54 | | | | | | |
| 56 | | | | | | |
| 58 | | | | | | |
| 60 | | | | | | |
| 62 | END OF BOREHOLE @ 62.0ft BGS | 458.13 | | | | |
| 64 | | | | | | |
| 66 | | | | | | |
| 68 | | | | | | |
| 70 | | | | | | |
| 72 | | | | | | |
| 74 | | | | | | |
| 76 | | | | | | |
| 78 | | | | | | |
| 80 | | | | | | |

WELL DETAILS

Screened interval:

488.93 to 478.93ft AMSL
31.20 to 41.20ft BGS

Length: 10ft

Diameter: 2in

Slot Size: 10

Material: PVC

Seal:

519.13 to 492.13ft AMSL
1.00 to 28.00ft BGS

Material: Bentonite Chips

Sand Pack:

492.13 to 458.13ft AMSL
28.00 to 62.00ft BGS

Material: #10 Silica Sand

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE

BEDROCK LOG 45136-23-N REDWOOD WLOO.GPJ CRA_CORP.GDT 6/19/06

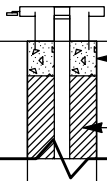


STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

Page 1 of 2

PROJECT NAME: DRESDEN GENERATING STATION
PROJECT NUMBER: 45136-23
CLIENT: EXELON GENERATION COMPANY LLC
LOCATION: MORRIS, ILLINOIS

HOLE DESIGNATION: MW-DN-103S
DATE COMPLETED: May 3, 2006
DRILLING METHOD: 6" Air Rotary - Barber Rig
FIELD PERSONNEL: D. Deitner

| DEPTH ft BGS | STRATIGRAPHIC DESCRIPTION & REMARKS | ELEV. ft AMSL | Monitoring Well | SAMPLE | | | | |
|-----------------|--|---------------------|--|--------|----------|---------|----------|--|
| | | | | NUMBER | INTERVAL | REC (%) | N' VALUE | |
| | TOP OF RISER GROUND SURFACE | 522.12 519.53 |  | | | | | |
| 2 | Overburden not logged. Cleared using soft dig. | | | | | | | |
| 4 | END OF OVERBURDEN HOLE @ 3.4ft BGS | | | | | | | |
| 6 | | | | | | | | |
| 8 | | | | | | | | |
| 10 | | | | | | | | |
| 12 | | | | | | | | |
| 14 | | | | | | | | |
| 16 | | | | | | | | |
| 18 | | | | | | | | |
| 20 | | | | | | | | |
| 22 | | | | | | | | |
| 24 | | | | | | | | |
| 26 | | | | | | | | |
| 28 | | | | | | | | |
| 30 | | | | | | | | |
| 32 | | | | | | | | |
| 34 | | | | | | | | |
| 36 | | | | | | | | |
| 38 | | | | | | | | |

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE

OVERBURDEN LOG 45136-23-N REDWOOD WLOG.GPJ CRA_CORP.GDT 6/19/06



STRATIGRAPHIC AND INSTRUMENTATION LOG (BEDROCK)

Page 2 of 2

PROJECT NAME: DRESDEN GENERATING STATION
PROJECT NUMBER: 45136-23
CLIENT: EXELON GENERATION COMPANY LLC
LOCATION: MORRIS, ILLINOIS

HOLE DESIGNATION: MW-DN-103S
DATE COMPLETED: May 3, 2006
DRILLING METHOD: 6" Air Rotary - Barber Rig
FIELD PERSONNEL: D. Deitner

| DEPTH ft BGS | STRATIGRAPHIC DESCRIPTION & REMARKS | ELEV. ft AMSL | Monitoring Well | RUN NUMBER | CORE RECOVERY % | RQD % |
|-----------------|--|---------------------|--|---------------|--------------------|-------|
| 4 | SANDSTONE - hard, light brown, moist to very moist - yellowish brown at 4.5ft BGS - light brown at 6.0ft BGS | 516.13 | Bentonite Chip Seal 2" Ø PVC Well Casing 6" Ø Borehole | | | |
| 6 | | | | | | |
| 8 | | | | | | |
| 10 | | | | | | |
| 12 | - dark brown, trace mica at 12.5ft BGS | | #10 Silica Sand Pack | | | |
| 14 | | | | | | |
| 16 | - light gray at 16.5ft BGS | | | | | |
| 18 | | | 2" Ø PVC Well Screen | | | |
| 20 | END OF BOREHOLE @ 20.0ft BGS | 499.53 | | | | |
| 22 | | | | | | |
| 24 | | | | | | |
| 26 | | | | | | |
| 28 | | | | | | |
| 30 | | | | | | |
| 32 | | | | | | |
| 34 | | | | | | |
| 36 | | | | | | |
| 38 | | | | | | |
| 40 | | | | | | |

WELL DETAILS

Screened interval:

509.53 to 499.53ft AMSL
10.00 to 20.00ft BGS

Length: 10ft

Diameter: 2in

Slot Size: 10

Material: PVC

Seal:

518.53 to 513.53ft AMSL
1.00 to 6.00ft BGS

Material: Bentonite Chips

Sand Pack:

513.53 to 499.53ft AMSL
6.00 to 20.00ft BGS

Material: #10 Silica Sand

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE

BEDROCK LOG 45136-23-N REDWOOD WLOO.GPJ CRA_CORP.GDT 6/13/06



STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

Page 1 of 2

PROJECT NAME: DRESDEN GENERATING STATION

HOLE DESIGNATION: MW-DN-104S

PROJECT NUMBER: 45136-23

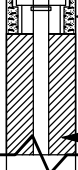
DATE COMPLETED: May 9, 2006

CLIENT: EXELON GENERATION COMPANY LLC

DRILLING METHOD: 6" Air Rotary - Barber Rig

LOCATION: MORRIS, ILLINOIS

FIELD PERSONNEL: N. Kuhl

| DEPTH ft BGS | STRATIGRAPHIC DESCRIPTION & REMARKS | ELEV. ft AMSL | Monitoring Well | SAMPLE | | | | |
|-----------------|---|---------------------|--|--------|----------|---------|----------|--|
| | | | | NUMBER | INTERVAL | REC (%) | N' VALUE | |
| | GROUND SURFACE TOP OF CASING | 516.60 516.38 | | | | | | |
| 2 | Overburden, not logged. Cleared using soft dig. | |  | | | | | |
| 4 | END OF OVERBURDEN HOLE @ 4.5ft BGS | | | | | | | |
| 6 | | | | | | | | |
| 8 | | | | | | | | |
| 10 | | | | | | | | |
| 12 | | | | | | | | |
| 14 | | | | | | | | |
| 16 | | | | | | | | |
| 18 | | | | | | | | |
| 20 | | | | | | | | |
| 22 | | | | | | | | |
| 24 | | | | | | | | |
| 26 | | | | | | | | |
| 28 | | | | | | | | |
| 30 | | | | | | | | |
| 32 | | | | | | | | |
| 34 | | | | | | | | |
| 36 | | | | | | | | |
| 38 | | | | | | | | |

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE

OVERBURDEN LOG 45136-23-N REDWOOD WLOO.GPJ CRA_CORP.GDT 6/19/06



STRATIGRAPHIC AND INSTRUMENTATION LOG (BEDROCK)

Page 1 of 1

PROJECT NAME: DRESDEN GENERATING STATION
PROJECT NUMBER: 45136-23
CLIENT: EXELON GENERATION COMPANY LLC
LOCATION: MORRIS, ILLINOIS

HOLE DESIGNATION: MW-DN-104S
DATE COMPLETED: May 9, 2006
DRILLING METHOD: AIR ROTARY
FIELD PERSONNEL: N. KUHL

| DEPTH ft BGS | STRATIGRAPHIC DESCRIPTION & REMARKS | ELEV. ft AMSL | Monitoring Well | RUN NUMBER | CORE RECOVERY % | RQD % |
|--|---|---------------------|--|---------------|--------------------|-------|
| | NORTHING: 1720545.8 EASTING: 1001497.04 GROUND SURFACE TOP OF CASING | 516.60 516.38 | | | | |
| 2 | SANDSTONE - orange | | Concrete | | | |
| 4 | | | Bentonite | | | |
| 6 | | | 2" PVC Well Casing | | | |
| 8 | | | | | | |
| 10 | | | 6" Borehole | | | |
| 12 | | | 2" PVC Well Screen | | | |
| 14 | | | Sand Pack | | | |
| 16 | | | | | | |
| 18 | | | | | | |
| 20 | END OF BOREHOLE @ 20.0ft BGS | 496.60 | | | | |
| 22 | | | WELL DETAILS Screened interval: 508.60 to 496.60ft AMSL 10.00 to 20.00ft BGS Length: 10ft Diameter: 2in Slot Size: 0.010 Material: PVC Seal: 515.60 to 508.60ft AMSL 1.00 to 8.00ft BGS Material: Bentonite Chips Sand Pack: 508.60 to 496.60ft AMSL 8.00 to 20.00ft BGS Material: #3 Sand | | | |
| 24 | | | | | | |
| 26 | | | | | | |
| 28 | | | | | | |
| 30 | | | | | | |
| 32 | | | | | | |
| 34 | | | | | | |
| 36 | | | | | | |
| 38 | | | | | | |
| NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE | | | | | | |

BEDROCK LOG 45136-23 - MW 104 109 112 TO 123 GPJ CRA CORP GDT 8/31/06

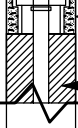


STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

Page 1 of 2

PROJECT NAME: DRESDEN GENERATING STATION
PROJECT NUMBER: 45136-23
CLIENT: EXELON GENERATION COMPANY LLC
LOCATION: MORRIS, ILLINOIS

HOLE DESIGNATION: MW-DN-105S
DATE COMPLETED: May 5, 2006
DRILLING METHOD: 6" Air Rotary - Barber Rig
FIELD PERSONNEL: K. Duwal

| DEPTH ft BGS | STRATIGRAPHIC DESCRIPTION & REMARKS | ELEV. ft AMSL | Monitoring Well | SAMPLE | | | | |
|-----------------|-------------------------------------|---------------------|--|--------|----------|---------|----------|--|
| | | | | NUMBER | INTERVAL | REC (%) | N' VALUE | |
| | TOP OF RISER GROUND SURFACE | 516.68 516.52 | | | | | | |
| 2 | Gravel and Rock Fill below asphalt | |  | | | | | |
| 4 | END OF OVERBURDEN HOLE @ 3.0ft BGS | | | | | | | |
| 6 | | | | | | | | |
| 8 | | | | | | | | |
| 10 | | | | | | | | |
| 12 | | | | | | | | |
| 14 | | | | | | | | |
| 16 | | | | | | | | |
| 18 | | | | | | | | |
| 20 | | | | | | | | |
| 22 | | | | | | | | |
| 24 | | | | | | | | |
| 26 | | | | | | | | |
| 28 | | | | | | | | |
| 30 | | | | | | | | |
| 32 | | | | | | | | |
| 34 | | | | | | | | |
| 36 | | | | | | | | |
| 38 | | | | | | | | |

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE

OVERBURDEN LOG 45136-23-N REDWOOD WLOO.GPJ CRA_CORP.GDT 6/13/06



STRATIGRAPHIC AND INSTRUMENTATION LOG (BEDROCK)

Page 2 of 2

PROJECT NAME: DRESDEN GENERATING STATION
PROJECT NUMBER: 45136-23
CLIENT: EXELON GENERATION COMPANY LLC
LOCATION: MORRIS, ILLINOIS

HOLE DESIGNATION: MW-DN-105S
DATE COMPLETED: May 5, 2006
DRILLING METHOD: 6" Air Rotary - Barber Rig
FIELD PERSONNEL: K. Duwal

| DEPTH ft BGS | STRATIGRAPHIC DESCRIPTION & REMARKS | ELEV. ft AMSL | Monitoring Well | RUN NUMBER | CORE RECOVERY % | RQD % |
|-----------------|---|---------------------|-------------------------|---------------|--------------------|-------|
| 4 | SANDSTONE - light to dark gray with tan | 513.52 | Bentonite Chip Seal | | | |
| 6 | | | 2" Ø PVC Well Casing | | | |
| 8 | | | 6" Ø Borehole | | | |
| 10 | | | | | | |
| 12 | | | | | | |
| 14 | | | #10 Silica Sand Pack | | | |
| 16 | | | | | | |
| 18 | | | 2" Ø PVC Well Screen | | | |
| 20 | END OF BOREHOLE @ 20.0ft BGS | 496.52 | | | | |
| 22 | | | | | | |
| 24 | | | | | | |
| 26 | | | | | | |
| 28 | | | | | | |
| 30 | | | | | | |
| 32 | | | | | | |
| 34 | | | | | | |
| 36 | | | | | | |
| 38 | | | | | | |
| 40 | | | | | | |

WELL DETAILS

Screened interval:

506.52 to 496.52ft AMSL

10.00 to 20.00ft BGS

Length: 10ft

Diameter: 2in

Slot Size: 10

Material: PVC

Seal:

515.52 to 510.02ft AMSL

1.00 to 6.50ft BGS

Material: Bentonite Chips

Sand Pack:

510.02 to 496.52ft AMSL

6.50 to 20.00ft BGS

Material: #10 Silica Sand

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE

BEDROCK LOG 45136-23-N REDWOOD WLOO.GPJ CRA_CORP.GDT 6/13/06

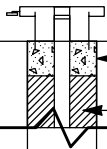


STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

Page 1 of 2

PROJECT NAME: DRESDEN GENERATING STATION
PROJECT NUMBER: 45136-23
CLIENT: EXELON GENERATION COMPANY LLC
LOCATION: MORRIS, ILLINOIS

HOLE DESIGNATION: MW-DN-106S
DATE COMPLETED: May 3, 2006
DRILLING METHOD: 6" Air Rotary - Barber Rig
FIELD PERSONNEL: D. Deitner

| DEPTH ft BGS | STRATIGRAPHIC DESCRIPTION & REMARKS | ELEV. ft AMSL | Monitoring Well | SAMPLE | | | | |
|-----------------|--|---------------------|--|--------|----------|---------|----------|--|
| | | | | NUMBER | INTERVAL | REC (%) | N' VALUE | |
| | TOP OF RISER GROUND SURFACE | 516.42 513.88 |  Concrete Surface Seal Bentonite Chip Seal | | | | | |
| 2 | Overburden not logged. Cleared using soft dig. | | | | | | | |
| 4 | END OF OVERBURDEN HOLE @ 2.5ft BGS | | | | | | | |
| 6 | | | | | | | | |
| 8 | | | | | | | | |
| 10 | | | | | | | | |
| 12 | | | | | | | | |
| 14 | | | | | | | | |
| 16 | | | | | | | | |
| 18 | | | | | | | | |
| 20 | | | | | | | | |
| 22 | | | | | | | | |
| 24 | | | | | | | | |
| 26 | | | | | | | | |
| 28 | | | | | | | | |
| 30 | | | | | | | | |
| 32 | | | | | | | | |
| 34 | | | | | | | | |
| 36 | | | | | | | | |
| 38 | | | | | | | | |

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE

OVERBURDEN LOG 45136-23-N REDWOOD WLOO.GPJ CRA_CORP.GDT 6/19/06

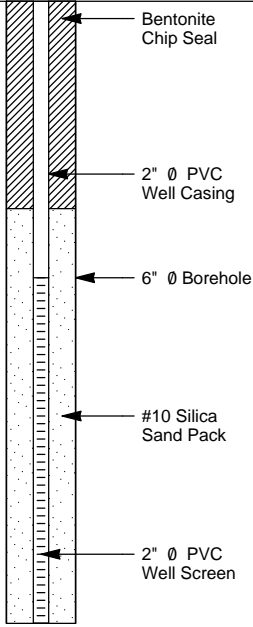


STRATIGRAPHIC AND INSTRUMENTATION LOG (BEDROCK)

Page 2 of 2

PROJECT NAME: DRESDEN GENERATING STATION
PROJECT NUMBER: 45136-23
CLIENT: EXELON GENERATION COMPANY LLC
LOCATION: MORRIS, ILLINOIS

HOLE DESIGNATION: MW-DN-106S
DATE COMPLETED: May 3, 2006
DRILLING METHOD: 6" Air Rotary - Barber Rig
FIELD PERSONNEL: D. Deitner

| DEPTH ft BGS | STRATIGRAPHIC DESCRIPTION & REMARKS | ELEV. ft AMSL | Monitoring Well | RUN NUMBER | CORE RECOVERY % | RQD % |
|-----------------|--|---------------------|---|---------------|--------------------|-------|
| 4 | SANDSTONE - hard, moist to very moist, yellowish brown, changes to light gray | 511.38 |  | | | |
| 6 | | | | | | |
| 8 | | | | | | |
| 10 | | | | | | |
| 12 | | | | | | |
| 14 | | | | | | |
| 16 | | | | | | |
| 18 | | | | | | |
| 20 | END OF BOREHOLE @ 20.0ft BGS | 493.88 | | | | |
| 22 | | | | | | |
| 24 | | | | | | |
| 26 | | | | | | |
| 28 | | | | | | |
| 30 | | | | | | |
| 32 | | | | | | |
| 34 | | | | | | |
| 36 | | | | | | |
| 38 | | | | | | |
| 40 | | | | | | |

WELL DETAILS

Screened interval:

503.88 to 493.88ft AMSL

10.00 to 20.00ft BGS

Length: 10ft

Diameter: 2in

Slot Size: 10

Material: PVC

Seal:

512.88 to 505.88ft AMSL

1.00 to 8.00ft BGS

Material: Bentonite Chips

Sand Pack:

505.88 to 493.88ft AMSL

8.00 to 20.00ft BGS

Material: #10 Silica Sand

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE

BEDROCK LOG 45136-23-N REDWOOD WLOO.GPJ CRA_CORP.GDT 6/13/06

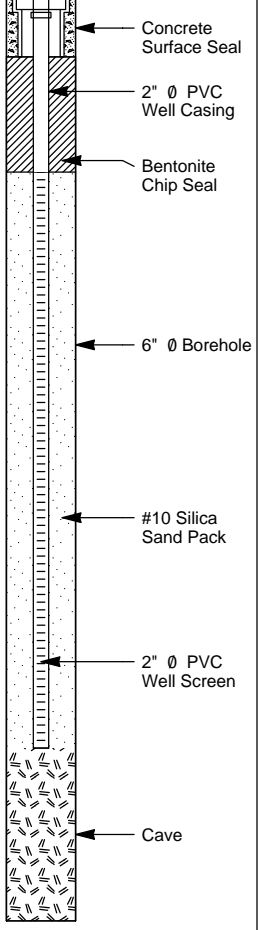


STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

Page 1 of 1

PROJECT NAME: DRESDEN GENERATING STATION
PROJECT NUMBER: 45136-23
CLIENT: EXELON GENERATION COMPANY LLC
LOCATION: MORRIS, ILLINOIS

HOLE DESIGNATION: MW-DN-107S
DATE COMPLETED: May 15, 2006
DRILLING METHOD: Vacuum Truck
FIELD PERSONNEL: D. Deitner

| DEPTH ft BGS | STRATIGRAPHIC DESCRIPTION & REMARKS | ELEV. ft AMSL | Monitoring Well | SAMPLE | | | | |
|-----------------|--|---------------------|--|--------|----------|---------|----------|--|
| | | | | NUMBER | INTERVAL | REC (%) | N' VALUE | |
| | TOP OF RISER GROUND SURFACE | 518.23 516.63 | | | | | | |
| 2 | SM SAND with silt, trace fine grained angular gravel, loose, medium brown, moist | |  <p>Concrete Surface Seal</p> <p>2" Ø PVC Well Casing</p> <p>Bentonite Chip Seal</p> <p>6" Ø Borehole</p> <p>#10 Silica Sand Pack</p> <p>2" Ø PVC Well Screen</p> <p>Cave</p> | | | | | |
| 4 | | | | | | | | |
| 6 | - wet at 5.0ft BGS | | | | | | | |
| 8 | END OF BOREHOLE @ 8.0ft BGS | 508.63 | | | | | | |
| 10 | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

WELL DETAILS
Screened interval:
515.13 to 510.13ft AMSL
1.50 to 6.50ft BGS
Length: 5ft
Diameter: 2in
Slot Size: 10
Material: PVC
Seal:
516.13 to 515.13ft AMSL
0.50 to 1.50ft BGS
Material: Bentonite Chips
Sand Pack:
515.13 to 510.13ft AMSL
1.50 to 6.50ft BGS
Material: #10 Silica Sand

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE

OVERBURDEN LOG 45136-23-N REDWOOD WLOO.GPJ CRA_CORP.GDT 6/13/06

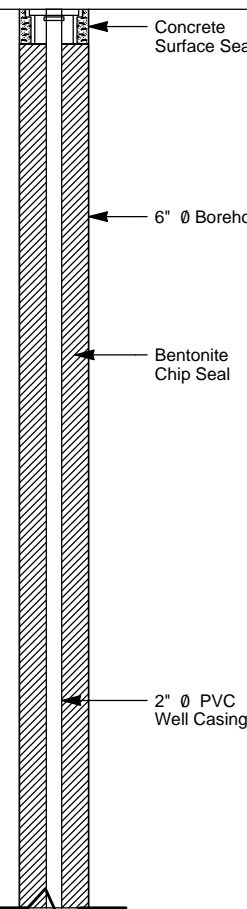


STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

Page 1 of 3

PROJECT NAME: DRESDEN GENERATING STATION
PROJECT NUMBER: 45136-23
CLIENT: EXELON GENERATION COMPANY LLC
LOCATION: MORRIS, ILLINOIS

HOLE DESIGNATION: MW-DN-108I
DATE COMPLETED: May 10, 2006
DRILLING METHOD: 6" Air Rotary - Barber Rig
FIELD PERSONNEL: D. Deitner

| DEPTH ft BGS | STRATIGRAPHIC DESCRIPTION & REMARKS | ELEV. ft AMSL | Monitoring Well | SAMPLE | | | | |
|-----------------|-------------------------------------|---------------------|---|--------|----------|---------|----------|--|
| | | | | NUMBER | INTERVAL | REC (%) | N' VALUE | |
| | GROUND SURFACE TOP OF CASING | 517.49 517.14 | | | | | | |
| 2 | SP - Sand, trace silt, trace clay | |  | | | | | |
| 4 | | | | | | | | |
| 6 | | | | | | | | |
| 8 | | | | | | | | |
| 10 | | | | | | | | |
| 12 | | | | | | | | |
| 14 | | | | | | | | |
| 16 | | | | | | | | |
| 18 | | | | | | | | |
| 20 | | | | | | | | |
| 22 | | | | | | | | |
| 24 | | | | | | | | |
| 26 | | | | | | | | |
| 28 | | | | | | | | |
| 30 | | | | | | | | |
| 32 | | | | | | | | |
| 34 | | | | | | | | |
| 36 | | | | | | | | |
| 38 | | | | | | | | |

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE

OVERBURDEN LOG 45136-23-N REDWOOD WLOO.GPJ CRA_CORP.GDT 6/19/06



STRATIGRAPHIC AND INSTRUMENTATION LOG (BEDROCK)

Page 2 of 3

PROJECT NAME: DRESDEN GENERATING STATION
PROJECT NUMBER: 45136-23
CLIENT: EXELON GENERATION COMPANY LLC
LOCATION: MORRIS, ILLINOIS

HOLE DESIGNATION: MW-DN-108I
DATE COMPLETED: May 10, 2006
DRILLING METHOD: 6" Air Rotary - Barber Rig
FIELD PERSONNEL: D. Deitner

| DEPTH ft BGS | STRATIGRAPHIC DESCRIPTION & REMARKS | ELEV. ft AMSL | Monitoring Well | RUN NUMBER | CORE RECOVERY % | RQD % |
|-----------------|--|---------------------|---|---------------|--------------------|-------|
| 26 | SANDSTONE - moist to very moist, hard, gray | 491.49 | | | | |
| 28 | | | | | | |
| 30 | | | | | | |
| 32 | | | | | | |
| 34 | LIMESTONE (transitional zone) - hard, light gray, moist, trace sandstone interbedded | 484.49 | | | | |
| 36 | - sandstone interbedding not present, harder at 36.0ft BGS | | | | | |
| 38 | - with sandstone interbedding, softer at 38.0ft BGS | | | | | |
| 40 | - harder, mix of limestone, sandstone and trace chert at 38.5ft BGS | | | | | |
| 42 | | | | | | |
| 44 | | | | | | |
| 46 | | | | | | |
| 48 | SHALE - trace sandstone, trace limestone, pale green, hard | 469.99 | | | | |
| 50 | - gray at 48.0ft BGS | | | | | |
| 52 | | | | | | |
| 54 | | | | | | |
| 56 | | | | | | |
| 58 | | | | | | |
| 60 | | | | | | |
| 62 | END OF BOREHOLE @ 62.0ft BGS | 455.49 | | | | |
| | | | WELL DETAILS Screened interval: | | | |

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE

BEDROCK LOG 45136-23-N REDWOOD WLOO.GPJ CRA_CORP.GDT 6/13/06



STRATIGRAPHIC AND INSTRUMENTATION LOG (BEDROCK)

Page 3 of 3

PROJECT NAME: DRESDEN GENERATING STATION
PROJECT NUMBER: 45136-23
CLIENT: EXELON GENERATION COMPANY LLC
LOCATION: MORRIS, ILLINOIS

HOLE DESIGNATION: MW-DN-108I
DATE COMPLETED: May 10, 2006
DRILLING METHOD: 6" Air Rotary - Barber Rig
FIELD PERSONNEL: D. Deitner

| DEPTH ft BGS | STRATIGRAPHIC DESCRIPTION & REMARKS | ELEV. ft AMSL | Monitoring Well | RUN NUMBER | CORE RECOVERY % | RQD % | |
|--------------------|-------------------------------------|---------------------|--|---------------|--------------------|-------|--|
| 66 | | | 477.49 to 467.49ft AMSL 40.00 to 50.00ft BGS Length: 10ft Diameter: 1in Slot Size: 10 Material: PVC Seal: 516.49 to 487.49ft AMSL 1.00 to 30.00ft BGS Material: Bentonite Chips Sand Pack: 487.49 to 467.49ft AMSL 30.00 to 50.00ft BGS Material: Natural Collapse used as filter pack from overburden | | | | |
| 68 | | | | | | | |
| 70 | | | | | | | |
| 72 | | | | | | | |
| 74 | | | | | | | |
| 76 | | | | | | | |
| 78 | | | | | | | |
| 80 | | | | | | | |
| 82 | | | | | | | |
| 84 | | | | | | | |
| 86 | | | | | | | |
| 88 | | | | | | | |
| 90 | | | | | | | |
| 92 | | | | | | | |
| 94 | | | | | | | |
| 96 | | | | | | | |
| 98 | | | | | | | |
| 100 | | | | | | | |
| 102 | | | | | | | |

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE

BEDROCK LOG 45136-23-N REDWOOD WLOO.GPJ CRA_CORP.GDT 6/13/06

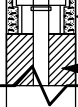


STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

Page 1 of 3

PROJECT NAME: DRESDEN GENERATING STATION
PROJECT NUMBER: 45136-23
CLIENT: EXELON GENERATION COMPANY LLC
LOCATION: MORRIS, ILLINOIS

HOLE DESIGNATION: MW-DN-109I
DATE COMPLETED: May 9, 2006
DRILLING METHOD: 6" Air Rotary - Barber Rig
FIELD PERSONNEL: N. Kuhl

| DEPTH ft BGS | STRATIGRAPHIC DESCRIPTION & REMARKS | ELEV. ft AMSL | Monitoring Well | SAMPLE | | | | |
|-----------------|---|---------------------|--|--------|----------|---------|----------|--|
| | | | | NUMBER | INTERVAL | REC (%) | N' VALUE | |
| | TOP OF RISER GROUND SURFACE | 516.31 516.27 | | | | | | |
| 2 | Overburden, not logged. Cleared using soft dig. | |  | | | | | |
| 4 | END OF OVERBURDEN HOLE @ 2.5ft BGS | | | | | | | |
| 6 | | | | | | | | |
| 8 | | | | | | | | |
| 10 | | | | | | | | |
| 12 | | | | | | | | |
| 14 | | | | | | | | |
| 16 | | | | | | | | |
| 18 | | | | | | | | |
| 20 | | | | | | | | |
| 22 | | | | | | | | |
| 24 | | | | | | | | |
| 26 | | | | | | | | |
| 28 | | | | | | | | |
| 30 | | | | | | | | |
| 32 | | | | | | | | |
| 34 | | | | | | | | |
| 36 | | | | | | | | |
| 38 | | | | | | | | |

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE

OVERBURDEN LOG 45136-23-N REDWOOD WLOG.GPJ CRA_CORP.GDT 6/19/06



STRATIGRAPHIC AND INSTRUMENTATION LOG (BEDROCK)

Page 2 of 3

PROJECT NAME: DRESDEN GENERATING STATION
PROJECT NUMBER: 45136-23
CLIENT: EXELON GENERATION COMPANY LLC
LOCATION: MORRIS, ILLINOIS

HOLE DESIGNATION: MW-DN-109I
DATE COMPLETED: May 9, 2006
DRILLING METHOD: AIR ROTARY
FIELD PERSONNEL: N. KUHL

| DEPTH ft BGS | STRATIGRAPHIC DESCRIPTION & REMARKS | ELEV. ft AMSL | Monitoring Well | RUN NUMBER | CORE RECOVERY % | RQD % |
|-----------------|---|---------------------|--------------------|---------------|--------------------|-------|
| | NORTHING: 1720244.36 EASTING: 1001238.2 TOP OF CASING GROUND SURFACE | 516.31 516.27 | | | | |
| 2 | SANDSTONE - orange | | Concrete | | | |
| 4 | | | Bentonite | | | |
| 6 | | | 2" PVC Well Casing | | | |
| 8 | SANDSTONE - gray | 508.27 | | | | |
| 10 | | | | | | |
| 12 | | | | | | |
| 14 | | | | | | |
| 16 | | | | | | |
| 18 | - wet at 18.5ft BGS | | | | | |
| 20 | | | | | | |
| 22 | | | | | | |
| 24 | | | | | | |
| 26 | | | | | | |
| 28 | | | | | | |
| 30 | LIMESTONE - gray | 487.27 | | | | |
| 32 | | | | | | |
| 34 | | | | | | |
| 36 | | | | | | |
| 38 | | | 6" Borehole | | | |

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE

BEDROCK LOG 45136-23 - MW 104 109 112 TO 123 GPJ CRA CORP GDT 8/31/06



STRATIGRAPHIC AND INSTRUMENTATION LOG (BEDROCK)

Page 3 of 3

PROJECT NAME: DRESDEN GENERATING STATION

HOLE DESIGNATION: MW-DN-109I

PROJECT NUMBER: 45136-23

DATE COMPLETED: May 9, 2006

CLIENT: EXELON GENERATION COMPANY LLC

DRILLING METHOD: AIR ROTARY

LOCATION: MORRIS, ILLINOIS

FIELD PERSONNEL: N. KUHL

| DEPTH ft BGS | STRATIGRAPHIC DESCRIPTION & REMARKS | ELEV. ft AMSL | Monitoring Well | RUN NUMBER | CORE RECOVERY % | RQD % |
|-----------------|-------------------------------------|---------------------|---------------------------------|---------------|--------------------|-------|
| 42 | | | | | | |
| 44 | | | | | | |
| 46 | SHALE - soft, dark gray | 471.27 | 2" PVC Well Screen Sand Pack | | | |
| 48 | | | | | | |
| 50 | | | | | | |
| 52 | END OF BOREHOLE @ 51.0ft BGS | 465.27 | | | | |
| 54 | | | | | | |
| 56 | | | | | | |
| 58 | | | | | | |
| 60 | | | | | | |
| 62 | | | | | | |
| 64 | | | | | | |
| 66 | | | | | | |
| 68 | | | | | | |
| 70 | | | | | | |
| 72 | | | | | | |
| 74 | | | | | | |
| 76 | | | | | | |
| 78 | | | | | | |

WELL DETAILS
Screened interval:
476.27 to 466.27ft AMSL
40.00 to 50.00ft BGS
Length: 10ft
Diameter: 2in
Slot Size: 0.010
Material: PVC
Seal:
515.27 to 478.77ft AMSL
1.00 to 37.50ft BGS
Material: Bentonite Chips
Sand Pack:
478.77 to 465.27ft AMSL
37.50 to 51.00ft BGS
Material: #3 Sand

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE

BEDROCK LOG 45136-23 - MW 104 109 112 TO 123.GPJ CRA_CORP.GDT 8/31/06

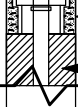


STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

Page 1 of 2

PROJECT NAME: DRESDEN GENERATING STATION
PROJECT NUMBER: 45136-23
CLIENT: EXELON GENERATION COMPANY LLC
LOCATION: MORRIS, ILLINOIS

HOLE DESIGNATION: MW-DN-109S
DATE COMPLETED: May 9, 2006
DRILLING METHOD: 6" Air Rotary - Barber Rig
FIELD PERSONNEL: N. Kuhl

| DEPTH ft BGS | STRATIGRAPHIC DESCRIPTION & REMARKS | ELEV. ft AMSL | Monitoring Well | SAMPLE | | | | |
|-----------------|---|---------------------|--|--------|----------|---------|----------|--|
| | | | | NUMBER | INTERVAL | REC (%) | N' VALUE | |
| | TOP OF RISER GROUND SURFACE | 516.32 516.29 | | | | | | |
| 2 | Overburden, not logged. Cleared using soft dig. | |  Concrete Surface Seal Bentonite Chip Seal | | | | | |
| 4 | END OF OVERBURDEN HOLE @ 2.5ft BGS | | | | | | | |
| 6 | | | | | | | | |
| 8 | | | | | | | | |
| 10 | | | | | | | | |
| 12 | | | | | | | | |
| 14 | | | | | | | | |
| 16 | | | | | | | | |
| 18 | | | | | | | | |
| 20 | | | | | | | | |
| 22 | | | | | | | | |
| 24 | | | | | | | | |
| 26 | | | | | | | | |
| 28 | | | | | | | | |
| 30 | | | | | | | | |
| 32 | | | | | | | | |
| 34 | | | | | | | | |
| 36 | | | | | | | | |
| 38 | | | | | | | | |

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE

OVERBURDEN LOG 45136-23-N REDWOOD WLOO.GPJ CRA_CORP.GDT 6/19/06



STRATIGRAPHIC AND INSTRUMENTATION LOG (BEDROCK)

Page 2 of 2

PROJECT NAME: DRESDEN GENERATING STATION

HOLE DESIGNATION: MW-DN-109S

PROJECT NUMBER: 45136-23

DATE COMPLETED: May 9, 2006

CLIENT: EXELON GENERATION COMPANY LLC

DRILLING METHOD: AIR ROTARY

LOCATION: MORRIS, ILLINOIS

FIELD PERSONNEL: N. KUHL

| DEPTH ft BGS | STRATIGRAPHIC DESCRIPTION & REMARKS | ELEV. ft AMSL | Monitoring Well | RUN NUMBER | CORE RECOVERY % | RQD % |
|-----------------|--|---------------------|--------------------|---------------|--------------------|-------|
| | NORTHING: 1720244.12 EASTING: 1001233.26 TOP OF CASING GROUND SURFACE | 516.32 516.29 | | | | |
| 2 | SANDSTONE - orange | | Concrete | | | |
| 4 | | | Bentonite | | | |
| 6 | | | 2" PVC Well Casing | | | |
| 8 | SANDSTONE - gray | 508.29 | 6" Borehole | | | |
| 10 | | | 2" PVC Well Screen | | | |
| 12 | | | Sand Pack | | | |
| 14 | | | | | | |
| 16 | | | | | | |
| 18 | | | | | | |
| 20 | END OF BOREHOLE @ 20.0ft BGS | 496.29 | | | | |
| 22 | | | | | | |
| 24 | | | | | | |
| 26 | | | | | | |
| 28 | | | | | | |
| 30 | | | | | | |
| 32 | | | | | | |
| 34 | | | | | | |
| 36 | | | | | | |
| 38 | | | | | | |

WELL DETAILS
Screened interval:
506.29 to 496.29ft AMSL
10.00 to 20.00ft BGS
Length: 10ft
Diameter: 2in
Slot Size: 0.010
Material: PVC
Seal:
515.29 to 508.29ft AMSL
1.00 to 8.00ft BGS
Material: Bentonite Chips
Sand Pack:
508.29 to 496.29ft AMSL
8.00 to 20.00ft BGS
Material: #3 Sand

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE

BEDROCK LOG 45136-23 - MW 104 109 112 TO 123 GPJ CRA CORP GDT 8/31/06

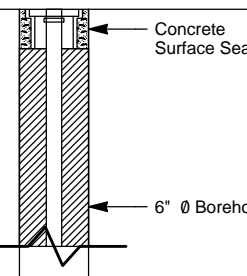


STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

Page 1 of 3

PROJECT NAME: DRESDEN GENERATING STATION
PROJECT NUMBER: 45136-23
CLIENT: EXELON GENERATION COMPANY LLC
LOCATION: MORRIS, ILLINOIS

HOLE DESIGNATION: MW-DN-110I
DATE COMPLETED: May 4, 2006
DRILLING METHOD: 6" Air Rotary - Barber Rig
FIELD PERSONNEL: D. Deitner

| DEPTH ft BGS | STRATIGRAPHIC DESCRIPTION & REMARKS | ELEV. ft AMSL | Monitoring Well | SAMPLE | | | | |
|-----------------|--|---------------------|--|--------|----------|---------|----------|--|
| | | | | NUMBER | INTERVAL | REC (%) | N' VALUE | |
| | TOP OF RISER GROUND SURFACE | 517.41 517.34 | | | | | | |
| 2 | Overburden not logged. Cleared using soft dig. | |  | | | | | |
| 4 | | | | | | | | |
| 6 | END OF OVERBURDEN HOLE @ 6.0ft BGS | | | | | | | |
| 8 | | | | | | | | |
| 10 | | | | | | | | |
| 12 | | | | | | | | |
| 14 | | | | | | | | |
| 16 | | | | | | | | |
| 18 | | | | | | | | |
| 20 | | | | | | | | |
| 22 | | | | | | | | |
| 24 | | | | | | | | |
| 26 | | | | | | | | |
| 28 | | | | | | | | |
| 30 | | | | | | | | |
| 32 | | | | | | | | |
| 34 | | | | | | | | |

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE

OVERBURDEN LOG 45136-23-N REDWOOD WLOG.GPJ CRA_CORP.GDT 6/13/06



STRATIGRAPHIC AND INSTRUMENTATION LOG (BEDROCK)

Page 2 of 3

PROJECT NAME: DRESDEN GENERATING STATION
PROJECT NUMBER: 45136-23
CLIENT: EXELON GENERATION COMPANY LLC
LOCATION: MORRIS, ILLINOIS

HOLE DESIGNATION: MW-DN-110I
DATE COMPLETED: May 4, 2006
DRILLING METHOD: 6" Air Rotary - Barber Rig
FIELD PERSONNEL: D. Deitner

| DEPTH ft BGS | STRATIGRAPHIC DESCRIPTION & REMARKS | ELEV. ft AMSL | Monitoring Well | RUN NUMBER | CORE RECOVERY % | RQD % |
|-----------------|---|---------------------|----------------------|---------------|--------------------|-------|
| 6 | SANDSTONE - hard, moist to very moist, light gray, trace mica | 511.34 | 6" Ø Borehole | | | |
| 8 | | | Bentonite Chip Seal | | | |
| 10 | | | | | | |
| 12 | | | | | | |
| 14 | | | | | | |
| 16 | | | | | | |
| 18 | | | | | | |
| 20 | | | 2" Ø PVC Well Casing | | | |
| 22 | | | | | | |
| 24 | | | | | | |
| 26 | | | | | | |
| 28 | | | | | | |
| 30 | | | | | | |
| 32 | LIMESTONE - hard, light gray, moist to very moist | 485.34 | | | | |
| 34 | | | | | | |
| 36 | | | | | | |
| 38 | | | | | | |

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE

BEDROCK LOG 45136-23-N REDWOOD WLOO.GPJ CRA_CORP.GDT 6/13/06



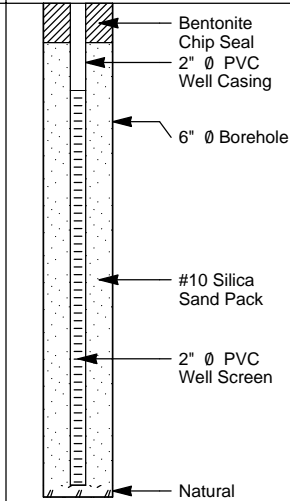
STRATIGRAPHIC AND INSTRUMENTATION LOG (BEDROCK)

Page 3 of 3

PROJECT NAME: DRESDEN GENERATING STATION
PROJECT NUMBER: 45136-23
CLIENT: EXELON GENERATION COMPANY LLC
LOCATION: MORRIS, ILLINOIS

HOLE DESIGNATION: MW-DN-110I
DATE COMPLETED: May 4, 2006
DRILLING METHOD: 6" Air Rotary - Barber Rig
FIELD PERSONNEL: D. Deitner

| DEPTH ft BGS | STRATIGRAPHIC DESCRIPTION & REMARKS | ELEV. ft AMSL | Monitoring Well | RUN NUMBER | CORE RECOVERY % | RQD % |
|-----------------|---|---------------------|-----------------|---------------|--------------------|-------|
| 40 | | | | | | |
| 42 | | | | | | |
| 44 | LIMESTONE - transitional zone. Limestone interbedded with shale; trace chert, trace sandstone | 473.34 | | | | |
| 46 | | | | | | |
| 48 | | | | | | |
| 50 | SHALE - hard, greenish gray, very moist | 466.84 | | | | |
| 52 | END OF BOREHOLE @ 51.5ft BGS | 465.84 | | | | |
| 54 | | | | | | |
| 56 | | | | | | |
| 58 | | | | | | |
| 60 | | | | | | |
| 62 | | | | | | |
| 64 | | | | | | |
| 66 | | | | | | |
| 68 | | | | | | |
| 70 | | | | | | |
| 72 | | | | | | |



WELL DETAILS
Screened interval: Overburden
476.14 to 466.14ft AMSL
41.20 to 51.20ft BGS
Length: 10ft
Diameter: 2in
Slot Size: 10
Material: PVC
Seal:
516.34 to 477.34ft AMSL
1.00 to 40.00ft BGS
Material: Bentonite Chips
Sand Pack:
477.34 to 466.14ft AMSL
40.00 to 51.20ft BGS
Material: #10 Silica Sand

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE

BEDROCK LOG 45136-23-N REDWOOD WLOO.GPJ CRA_CORP.GDT 6/13/06



STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

Page 1 of 2

PROJECT NAME: DRESDEN GENERATING STATION
PROJECT NUMBER: 45136-23
CLIENT: EXELON GENERATION COMPANY LLC
LOCATION: MORRIS, ILLINOIS

HOLE DESIGNATION: MW-DN-110S
DATE COMPLETED: May 4, 2006
DRILLING METHOD: 6" Air Rotary - Barber Rig
FIELD PERSONNEL: D. Deitner

| DEPTH ft BGS | STRATIGRAPHIC DESCRIPTION & REMARKS | ELEV. ft AMSL | Monitoring Well | SAMPLE | | | | |
|-----------------|--|---------------------|-----------------|--------|----------|---------|----------|--|
| | | | | NUMBER | INTERVAL | REC (%) | N' VALUE | |
| | TOP OF RISER GROUND SURFACE | 517.28 517.16 | | | | | | |
| 2 | Overburden not logged. Cleared using soft dig. | | | | | | | |
| 4 | | | | | | | | |
| 6 | END OF OVERBURDEN HOLE @ 6.0ft BGS | | | | | | | |
| 8 | | | | | | | | |
| 10 | | | | | | | | |
| 12 | | | | | | | | |
| 14 | | | | | | | | |
| 16 | | | | | | | | |
| 18 | | | | | | | | |
| 20 | | | | | | | | |
| 22 | | | | | | | | |
| 24 | | | | | | | | |
| 26 | | | | | | | | |
| 28 | | | | | | | | |
| 30 | | | | | | | | |
| 32 | | | | | | | | |
| 34 | | | | | | | | |
| 36 | | | | | | | | |
| 38 | | | | | | | | |

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE

OVERBURDEN LOG 45136-23-N REDWOOD WLOO.GPJ CRA_CORP.GDT 6/13/06

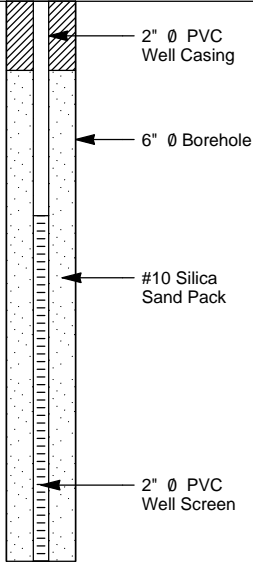


STRATIGRAPHIC AND INSTRUMENTATION LOG (BEDROCK)

Page 2 of 2

PROJECT NAME: DRESDEN GENERATING STATION
PROJECT NUMBER: 45136-23
CLIENT: EXELON GENERATION COMPANY LLC
LOCATION: MORRIS, ILLINOIS

HOLE DESIGNATION: MW-DN-110S
DATE COMPLETED: May 4, 2006
DRILLING METHOD: 6" Air Rotary - Barber Rig
FIELD PERSONNEL: D. Deitner

| DEPTH ft BGS | STRATIGRAPHIC DESCRIPTION & REMARKS | ELEV. ft AMSL | Monitoring Well | RUN NUMBER | CORE RECOVERY % | RQD % |
|-----------------|---|---------------------|---|---------------|--------------------|-------|
| 6 | SANDSTONE - hard, moist to very moist, light gray | 511.16 |  | | | |
| 8 | | | | | | |
| 10 | | | | | | |
| 12 | | | | | | |
| 14 | | | | | | |
| 16 | | | | | | |
| 18 | | | | | | |
| 20 | | | | | | |
| 22 | | | | | | |
| 24 | | | | | | |
| 26 | END OF BOREHOLE @ 20.2ft BGS | 496.96 | <p><u>WELL DETAILS</u> Screened interval: 506.96 to 496.96ft AMSL 10.20 to 20.20ft BGS Length: 10ft Diameter: 2in Slot Size: 10 Material: PVC Seal: 516.16 to 511.16ft AMSL 1.00 to 6.00ft BGS Material: Bentonite Chips Sand Pack: 511.16 to 496.96ft AMSL 6.00 to 20.20ft BGS Material: #10 Silica Sand</p> | | | |
| 28 | | | | | | |
| 30 | | | | | | |
| 32 | | | | | | |
| 34 | | | | | | |
| 36 | | | | | | |
| 38 | | | | | | |
| 40 | | | | | | |
| 42 | | | | | | |

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE

BEDROCK LOG 45136-23-N REDWOOD WLOO.GPJ CRA_CORP.GDT 6/13/06

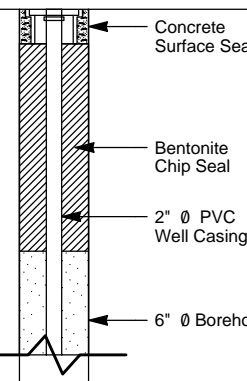


STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

Page 1 of 2

PROJECT NAME: DRESDEN GENERATING STATION
PROJECT NUMBER: 45136-23
CLIENT: EXELON GENERATION COMPANY LLC
LOCATION: MORRIS, ILLINOIS

HOLE DESIGNATION: MW-DN-111S
DATE COMPLETED: May 4, 2006
DRILLING METHOD: 6" Air Rotary - Barber Rig
FIELD PERSONNEL: D. Deitner

| DEPTH ft BGS | STRATIGRAPHIC DESCRIPTION & REMARKS | ELEV. ft AMSL | Monitoring Well | SAMPLE | | | | |
|-----------------|--|---------------------|--|--------|----------|---------|----------|--|
| | | | | NUMBER | INTERVAL | REC (%) | N' VALUE | |
| | GROUND SURFACE TOP OF CASING | 517.19 516.63 | | | | | | |
| 2 | Overburden not logged. Cleared using soft dig. | |  | | | | | |
| 4 | | | | | | | | |
| 6 | | | | | | | | |
| 8 | | | | | | | | |
| 10 | END OF OVERBURDEN HOLE @ 10.0ft BGS | | | | | | | |
| 12 | | | | | | | | |
| 14 | | | | | | | | |
| 16 | | | | | | | | |
| 18 | | | | | | | | |
| 20 | | | | | | | | |
| 22 | | | | | | | | |
| 24 | | | | | | | | |
| 26 | | | | | | | | |
| 28 | | | | | | | | |
| 30 | | | | | | | | |
| 32 | | | | | | | | |
| 34 | | | | | | | | |
| 36 | | | | | | | | |
| 38 | | | | | | | | |

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE

OVERBURDEN LOG 45136-23-N REDWOOD WLOO.GPJ CRA_CORP.GDT 6/13/06

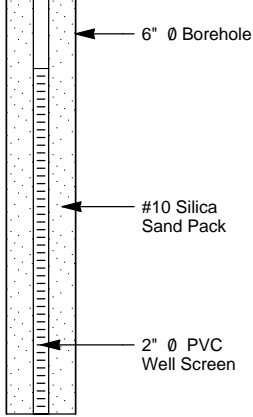


STRATIGRAPHIC AND INSTRUMENTATION LOG (BEDROCK)

Page 2 of 2

PROJECT NAME: DRESDEN GENERATING STATION
PROJECT NUMBER: 45136-23
CLIENT: EXELON GENERATION COMPANY LLC
LOCATION: MORRIS, ILLINOIS

HOLE DESIGNATION: MW-DN-111S
DATE COMPLETED: May 4, 2006
DRILLING METHOD: 6" Air Rotary - Barber Rig
FIELD PERSONNEL: D. Deitner

| DEPTH ft BGS | STRATIGRAPHIC DESCRIPTION & REMARKS | ELEV. ft AMSL | Monitoring Well | RUN NUMBER | CORE RECOVERY % | RQD % |
|-----------------|---|---------------------|---|---------------|--------------------|-------|
| 10 | SANDSTONE - hard, moist to very moist, yellowish brown then changing to light gray | 507.19 |  | | | |
| 12 | | | | | | |
| 14 | | | | | | |
| 16 | | | | | | |
| 18 | | | | | | |
| 20 | | | | | | |
| 22 | | | | | | |
| 24 | | | | | | |
| 26 | | | | | | |
| 28 | | | | | | |
| 30 | END OF BOREHOLE @ 20.0ft BGS | 497.19 | <p><u>WELL DETAILS</u> Screened interval: 507.19 to 497.19ft AMSL 10.00 to 20.00ft BGS Length: 10ft Diameter: 2in Slot Size: 10 Material: PVC Seal: 516.19 to 510.19ft AMSL 1.00 to 7.00ft BGS Material: Bentonite Chips Sand Pack: 510.19 to 497.19ft AMSL 7.00 to 20.00ft BGS Material: #10 Silica Sand</p> | | | |
| 32 | | | | | | |
| 34 | | | | | | |
| 36 | | | | | | |
| 38 | | | | | | |
| 40 | | | | | | |
| 42 | | | | | | |
| 44 | | | | | | |
| 46 | | | | | | |

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE

BEDROCK LOG 45136-23-N REDWOOD WLOO.GPJ CRA_CORP.GDT 6/13/06



STRATIGRAPHIC AND INSTRUMENTATION LOG (BEDROCK)

Page 1 of 2

PROJECT NAME: DRESDEN GENERATING STATION

HOLE DESIGNATION: MW-DN-112I

PROJECT NUMBER: 45136-23

DATE COMPLETED: July 20, 2006

CLIENT: EXELON GENERATION COMPANY LLC

DRILLING METHOD: AIR ROTARY

LOCATION: MORRIS, ILLINOIS

FIELD PERSONNEL: J. WINTERINK

| DEPTH ft BGS | STRATIGRAPHIC DESCRIPTION & REMARKS | ELEV. ft AMSL | Monitoring Well | RUN NUMBER | CORE RECOVERY % | RQD % |
|-----------------|--|---------------------|--------------------|---------------|--------------------|-------|
| | GROUND SURFACE TOP OF RISER | 516.56 516.22 | | | | |
| | GRAVEL/SAND, overburden | | Concrete | | | |
| 2 | SANDSTONE, orange, thick, medium grain | 515.06 | | | | |
| 4 | | | | | | |
| 6 | | | | | | |
| 8 | - wet at 8.0ft BGS | | 6" Borehole | | | |
| 10 | Limestone, gray, weak | 506.56 | Cement Grout | | | |
| 12 | | | | | | |
| 14 | | | | | | |
| 16 | | | | | | |
| 18 | | | | | | |
| 20 | | | 2" PVC Well Casing | | | |
| 22 | | | | | | |
| 24 | | | | | | |
| 26 | - some black fines at 25.0ft BGS | | | | | |
| 28 | | | Bentonite Pellets | | | |
| 30 | | | | | | |
| 32 | - gray/white, hard at 31.0ft BGS | | | | | |
| 34 | | | Sand Pack | | | |
| 36 | | | 2" PVC Well Screen | | | |
| 38 | | | | | | |

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE

BEDROCK LOG 45136-23 - MW 104 109 112 TO 123.GPJ CRA CORP GDT 8/31/06



STRATIGRAPHIC AND INSTRUMENTATION LOG (BEDROCK)

Page 2 of 2

PROJECT NAME: DRESDEN GENERATING STATION
PROJECT NUMBER: 45136-23
CLIENT: EXELON GENERATION COMPANY LLC
LOCATION: MORRIS, ILLINOIS

HOLE DESIGNATION: MW-DN-112I
DATE COMPLETED: July 20, 2006
DRILLING METHOD: AIR ROTARY
FIELD PERSONNEL: J. WINTERINK

| DEPTH ft BGS | STRATIGRAPHIC DESCRIPTION & REMARKS | ELEV. ft AMSL | Monitoring Well | RUN NUMBER | CORE RECOVERY % | RQD % |
|-----------------|-------------------------------------|---------------------|-----------------|---------------|--------------------|-------|
| | SHALE, green, soft | 476.56 | | | | |
| 42 | END OF BOREHOLE @ 41.5ft BGS | 475.06 | | | | |
| 44 | | | | | | |
| 46 | | | | | | |
| 48 | | | | | | |
| 50 | | | | | | |
| 52 | | | | | | |
| 54 | | | | | | |
| 56 | | | | | | |
| 58 | | | | | | |
| 60 | | | | | | |
| 62 | | | | | | |
| 64 | | | | | | |
| 66 | | | | | | |
| 68 | | | | | | |
| 70 | | | | | | |
| 72 | | | | | | |
| 74 | | | | | | |
| 76 | | | | | | |
| 78 | | | | | | |

WELL DETAILS

Screened interval:

485.06 to 475.06ft AMSL

31.50 to 41.50ft BGS

Length: 10ft

Diameter: 2in

Slot Size: 0.010

Material: PVC

Sand Pack:

487.06 to 475.06ft AMSL

29.50 to 41.50ft BGS

Material: #7 Sand

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE

BEDROCK LOG 45136-23 - MW/104 109 112 TO 123 GPJ CRA CORP GDT 8/31/06

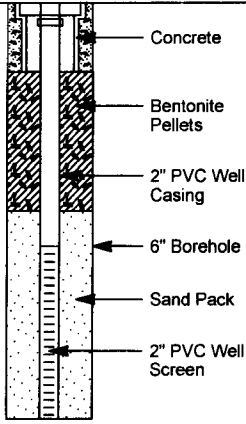


STRATIGRAPHIC AND INSTRUMENTATION LOG (BEDROCK)

Page 1 of 1

PROJECT NAME: DRESDEN GENERATING STATION
PROJECT NUMBER: 45136-23
CLIENT: EXELON GENERATION COMPANY LLC
LOCATION: MORRIS, ILLINOIS

HOLE DESIGNATION: MW-DN-112S
DATE COMPLETED: July 21, 2006
DRILLING METHOD: AIR ROTARY
FIELD PERSONNEL: J. WINTERINK

| DEPTH ft BGS | STRATIGRAPHIC DESCRIPTION & REMARKS | ELEV. ft AMSL | Monitoring Well | RUN NUMBER | CORE RECOVERY % | RQD % |
|-----------------|--|---------------------|--|---------------|--------------------|-------|
| | GROUND SURFACE TOP OF RISER | 516.72 516.35 | | | | |
| 2 | GRAVEL/SAND, overburden (soft dig) | |  <p>Concrete Bentonite Pellets 2" PVC Well Casing 6" Borehole Sand Pack 2" PVC Well Screen</p> <p><u>WELL DETAILS</u> Screened interval: 509.72 to 504.72ft AMSL 7.00 to 12.00ft BGS Length: 5ft Diameter: 2in Slot Size: 0.010 Material: PVC Sand Pack: 510.72 to 504.72ft AMSL 6.00 to 12.00ft BGS Material: #7 Sand</p> | | | |
| 4 | SANDSTONE, orange, thick, medium grain | 515.22 | | | | |
| 6 | | | | | | |
| 8 | - wet at 8.0ft BGS | | | | | |
| 10 | | | | | | |
| 12 | LIMESTONE, gray | 505.72 | | | | |
| 12 | END OF BOREHOLE @ 12.0ft BGS | 504.72 | | | | |
| 14 | | | | | | |
| 16 | | | | | | |
| 18 | | | | | | |
| 20 | | | | | | |
| 22 | | | | | | |
| 24 | | | | | | |
| 26 | | | | | | |
| 28 | | | | | | |
| 30 | | | | | | |
| 32 | | | | | | |
| 34 | | | | | | |
| 36 | | | | | | |
| 38 | | | | | | |

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE

BEDROCK LOG 45136-23 - MW 104 109 112 TO 123 GPJ CRA CORP GDT 8/31/06



STRATIGRAPHIC AND INSTRUMENTATION LOG (BEDROCK)

Page 1 of 2

PROJECT NAME: DRESDEN GENERATING STATION

HOLE DESIGNATION: MW-DN-113I

PROJECT NUMBER: 45136-23

DATE COMPLETED: July 21, 2006

CLIENT: EXELON GENERATION COMPANY LLC

DRILLING METHOD: AIR ROTARY

LOCATION: MORRIS, ILLINOIS

FIELD PERSONNEL: J. WINTERINK

| DEPTH ft BGS | STRATIGRAPHIC DESCRIPTION & REMARKS | ELEV. ft AMSL | Monitoring Well | RUN NUMBER | CORE RECOVERY % | RQD % |
|-----------------|--|---------------------|-----------------------|---------------|--------------------|-------|
| | GROUND SURFACE TOP OF RISER | 516.33 516.13 | | | | |
| 2 | GRAVEL, overburden, wet | | Concrete | | | |
| 4 | SANDSTONE, orange, very weak, fine grained | 514.33 | 6" Borehole | | | |
| 6 | | | Cement Grout | | | |
| 8 | | | | | | |
| 10 | | 505.33 | | | | |
| 12 | LIMESTONE, gray, monderately hard, schistose | | 2" PVC Well Casing | | | |
| 14 | | | | | | |
| 16 | | | | | | |
| 18 | | | | | | |
| 20 | | | | | | |
| 22 | | | | | | |
| 24 | | | | | | |
| 26 | - black material, fine grained, bedding plane at 25.0ft BGS | | | | | |
| 28 | | | | | | |
| 30 | LIMESTONE, light gray, strong, with seams of green shalestone | 486.33 | Bentonite Pellets | | | |
| 32 | | | Sand Pack | | | |
| 34 | | | | | | |
| 36 | | | | | | |
| 38 | | | | | | |

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE

BEDROCK LOG 45136-23 - MW 104 109 112 TO 123.GPJ CRA CORP GDT 8/31/06



STRATIGRAPHIC AND INSTRUMENTATION LOG (BEDROCK)

Page 2 of 2

PROJECT NAME: DRESDEN GENERATING STATION

HOLE DESIGNATION: MW-DN-113I

PROJECT NUMBER: 45136-23

DATE COMPLETED: July 21, 2006

CLIENT: EXELON GENERATION COMPANY LLC

DRILLING METHOD: AIR ROTARY

LOCATION: MORRIS, ILLINOIS

FIELD PERSONNEL: J. WINTERINK

| DEPTH ft BGS | STRATIGRAPHIC DESCRIPTION & REMARKS | ELEV. ft AMSL | Monitoring Well | RUN NUMBER | CORE RECOVERY % | RQD % | |
|-----------------|-------------------------------------|---------------------|-----------------|---------------|--------------------|-------|--|
| 42 | SHALESTONE, dark gray/green, soft | 474.33 | | | | | |
| 44 | | | | | | | |
| 46 | | | | | | | |
| 48 | END OF BOREHOLE @ 48.0ft BGS | 468.33 | | | | | |
| 50 | | | | | | | |
| 52 | | | | | | | |
| 54 | | | | | | | |
| 56 | | | | | | | |
| 58 | | | | | | | |
| 60 | | | | | | | |
| 62 | | | | | | | |
| 64 | | | | | | | |
| 66 | | | | | | | |
| 68 | | | | | | | |
| 70 | | | | | | | |
| 72 | | | | | | | |
| 74 | | | | | | | |
| 76 | | | | | | | |
| 78 | | | | | | | |

WELL DETAILS
Screened interval:
478.33 to 468.33ft AMSL
38.00 to 48.00ft BGS
Length: 10ft
Diameter: 2in
Slot Size: 0.010
Material: PVC
Sand Pack:
480.33 to 468.33ft AMSL
36.00 to 48.00ft BGS
Material: #7 Sand

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE

BEDROCK LOG 45136-23 - MW 104 109 112 TO 123 GPJ CRA_CORP GDT 8/31/06

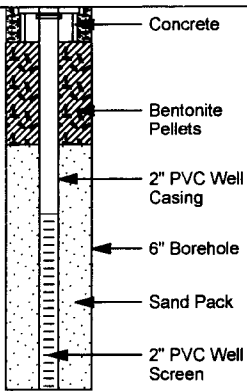


STRATIGRAPHIC AND INSTRUMENTATION LOG (BEDROCK)

Page 1 of 1

PROJECT NAME: DRESDEN GENERATING STATION
PROJECT NUMBER: 45136-23
CLIENT: EXELON GENERATION COMPANY LLC
LOCATION: MORRIS, ILLINOIS

HOLE DESIGNATION: MW-DN-113S
DATE COMPLETED: July 24, 2006
DRILLING METHOD: 6" HAMMER
FIELD PERSONNEL: J. CLOSE

| DEPTH ft BGS | STRATIGRAPHIC DESCRIPTION & REMARKS | ELEV. ft AMSL | Monitoring Well | RUN NUMBER | CORE RECOVERY % | RQD % |
|-----------------|--|---------------------|---|---------------|--------------------|-------|
| | GROUND SURFACE TOP OF RISER | 516.36 516.13 | | | | |
| 2 | SAND and GRAVEL (Fill), coarse sand, fine-coarse gravel | 514.36 |  | | | |
| 4 | SANDSTONE, light gray, fine grained, soft, loose | | | | | |
| 6 | | 505.36 | <p><u>WELL DETAILS</u> Screened interval: 510.36 to 505.36ft AMSL 6.00 to 11.00ft BGS Length: 5ft Diameter: 2in Slot Size: 10 Material: PVC Sand Pack: 512.36 to 505.36ft AMSL 4.00 to 11.00ft BGS Material: 20/40 Sand</p> | | | |
| 8 | | | | | | |
| 10 | | | | | | |
| 12 | END OF BOREHOLE @ 11.0ft BGS | | | | | |
| 14 | | | | | | |
| 16 | | | | | | |
| 18 | | | | | | |
| 20 | | | | | | |
| 22 | | | | | | |
| 24 | | | | | | |
| 26 | | | | | | |
| 28 | | | | | | |
| 30 | | | | | | |
| 32 | | | | | | |
| 34 | | | | | | |
| 36 | | | | | | |
| 38 | | | | | | |

EDROCK LOG 45136-23 - MW 104 109 112 TO 123.GPJ CRA_CORP.GDT 8/31/06

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE

BEDROCK LOG 45136-23 - MW 104 109 112 TO 123.GPJ CRA_CORP.GDT 8/31/06



STRATIGRAPHIC AND INSTRUMENTATION LOG (BEDROCK)

Page 1 of 2

PROJECT NAME: DRESDEN GENERATING STATION

HOLE DESIGNATION: MW-DN-114I

PROJECT NUMBER: 45136-23

DATE COMPLETED: July 31, 2006

CLIENT: EXELON GENERATION COMPANY LLC

DRILLING METHOD: AIR ROTARY

LOCATION: MORRIS, ILLINOIS

FIELD PERSONNEL: C. PINTER/K. DUWAL

| DEPTH ft BGS | STRATIGRAPHIC DESCRIPTION & REMARKS | ELEV. ft AMSL | Monitoring Well | RUN NUMBER | CORE RECOVERY % | RQD % | |
|--|---|---------------------|--------------------|---------------|--------------------|-------|--|
| | TOP OF RISER GROUND SURFACE | 519.97 519.71 | | | | | |
| 2 | Overburden removed by air knife | | Concrete | | | | |
| 4 | | | | | | | |
| 6 | | | | | | | |
| 8 | SANDSTONE, brown, wet, strong diesel odor | 512.71 | | | | | |
| 10 | - no diesel odor at 9.0ft BGS | | 6" Borehole | | | | |
| 12 | | | | | | | |
| 14 | | | | | | | |
| 16 | | | | | | | |
| 18 | | | | | | | |
| 20 | | | Bentonite Grout | | | | |
| 22 | | | | | | | |
| 24 | | | | | | | |
| 26 | | | | | | | |
| 28 | | | | | | | |
| 30 | | | 2" PVC Well Casing | | | | |
| 32 | | | | | | | |
| 34 | | | | | | | |
| 36 | | | | | | | |
| 38 | | | | | | | |
| NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE | | | | | | | |

BEDROCK LOG 45136-23 - MW 104 109 112 TO 123 GPJ CRA CORP GDT 8/31/06



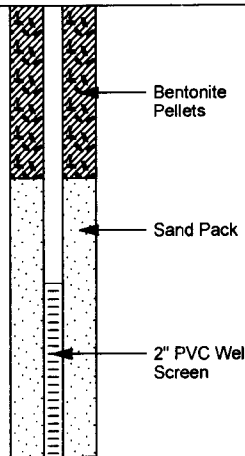
STRATIGRAPHIC AND INSTRUMENTATION LOG (BEDROCK)

Page 2 of 2

PROJECT NAME: DRESDEN GENERATING STATION
PROJECT NUMBER: 45136-23
CLIENT: EXELON GENERATION COMPANY LLC
LOCATION: MORRIS, ILLINOIS

HOLE DESIGNATION: MW-DN-114I
DATE COMPLETED: July 31, 2006
DRILLING METHOD: AIR ROTARY
FIELD PERSONNEL: C. PINTER/K. DUWAL

| DEPTH ft BGS | STRATIGRAPHIC DESCRIPTION & REMARKS | ELEV. ft AMSL | Monitoring Well | RUN NUMBER | CORE RECOVERY % | RQD % |
|-----------------|---|---------------------|-----------------|---------------|--------------------|-------|
| | - some limestone interbedding at 40.0ft BGS | | | | | |
| 42 | LIMESTONE, some sandstone interbedding, light gray/pink, wet | 478.71 | | | | |
| 44 | | | | | | |
| 46 | | | | | | |
| 48 | | | | | | |
| 50 | | | | | | |
| 52 | SHALE, limestone interbedding, pale green/gray, wet | 468.71 | | | | |
| 54 | END OF BOREHOLE @ 53.0ft BGS | 466.71 | | | | |
| 56 | | | | | | |
| 58 | | | | | | |
| 60 | | | | | | |
| 62 | | | | | | |
| 64 | | | | | | |
| 66 | | | | | | |
| 68 | | | | | | |
| 70 | | | | | | |
| 72 | | | | | | |
| 74 | | | | | | |
| 76 | | | | | | |
| 78 | | | | | | |



WELL DETAILS
Screened interval:
471.71 to 466.71ft AMSL
48.00 to 53.00ft BGS
Length: 5ft
Diameter: 2in
Slot Size: 10
Material: PVC
Sand Pack:
474.71 to 466.71ft AMSL
45.00 to 53.00ft BGS
Material: #7 Sand

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE

BEDROCK LOG 45136-23 - MW 104 109 112 TO 123.GPJ CRA CORP.GDT 8/31/06



STRATIGRAPHIC AND INSTRUMENTATION LOG (BEDROCK)

Page 1 of 2

PROJECT NAME: DRESDEN GENERATING STATION

HOLE DESIGNATION: MW-DN-114S

PROJECT NUMBER: 45136-23

DATE COMPLETED: July 25, 2006

CLIENT: EXELON GENERATION COMPANY LLC

DRILLING METHOD: AIR ROTARY

LOCATION: MORRIS, ILLINOIS

FIELD PERSONNEL: C. PINTER

| DEPTH ft BGS | STRATIGRAPHIC DESCRIPTION & REMARKS | ELEV. ft AMSL | Monitoring Well | RUN NUMBER | CORE RECOVERY % | RQD % | |
|-----------------|---|---------------------|--------------------|---------------|--------------------|-------|--|
| | GROUND SURFACE TOP OF RISER | 516.76 516.31 | | | | | |
| 2 | Overburden removed by air knife | | Concrete | | | | |
| 4 | | | 6" Borehole | | | | |
| 6 | | | Bentonite Grout | | | | |
| 8 | SANDSTONE, brown, wet, strong diesel odor | 509.76 | 2" PVC Well Casing | | | | |
| 10 | - no diesel odor at 9.0ft BGS | | | | | | |
| 12 | | | | | | | |
| 14 | | | | | | | |
| 16 | | | | | | | |
| 18 | | | | | | | |
| 20 | | | Bentonite Pellets | | | | |
| 22 | | | | | | | |
| 24 | | | | | | | |
| 26 | | | | | | | |
| 28 | | | | | | | |
| 30 | | | Sand Pack | | | | |
| 32 | | | | | | | |
| 34 | | | | | | | |
| 36 | | | | | | | |
| 38 | | | 2" PVC Well Screen | | | | |

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE

BEDROCK LOG 45136-23 - MW 104 109 112 TO 123 GPJ CRA_CORP GDT 8/31/06



STRATIGRAPHIC AND INSTRUMENTATION LOG (BEDROCK)

Page 2 of 2

PROJECT NAME: DRESDEN GENERATING STATION

HOLE DESIGNATION: MW-DN-114S

PROJECT NUMBER: 45136-23


DATE COMPLETED: July 25, 2006

CLIENT: EXELON GENERATION COMPANY LLC

DRILLING METHOD: AIR ROTARY

LOCATION: MORRIS, ILLINOIS

FIELD PERSONNEL: C. PINTER

| DEPTH ft BGS | STRATIGRAPHIC DESCRIPTION & REMARKS | ELEV. ft AMSL | Monitoring Well | RUN NUMBER | CORE RECOVERY % | RQD % |
|-----------------|--|---------------------|--|---------------|--------------------|-------|
| 42 | - some limestone interbedding at 40.0ft BGS LIMESTONE, some sandstone interbedding, light gray/pink, wet END OF BOREHOLE @ 42.0ft BGS | 475.76 474.76 |  | | | |
| 44 | | | | | | |
| 46 | | | | | | |
| 48 | | | | | | |
| 50 | | | | | | |
| 52 | | | | | | |
| 54 | | | | | | |
| 56 | | | | | | |
| 58 | | | | | | |
| 60 | | | | | | |
| 62 | | | | | | |
| 64 | | | | | | |
| 66 | | | | | | |
| 68 | | | | | | |
| 70 | | | | | | |
| 72 | | | | | | |
| 74 | | | | | | |
| 76 | | | | | | |
| 78 | | | | | | |

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE

BEDROCK LOG 45136-23 - MW 104 109 112 TO 123 GPJ CRA CORP GDT 8/31/06



STRATIGRAPHIC AND INSTRUMENTATION LOG (BEDROCK)

Page 1 of 2

PROJECT NAME: DRESDEN GENERATING STATION

PROJECT NUMBER: 45136-23

CLIENT: EXELON GENERATION COMPANY LLC

LOCATION: MORRIS, ILLINOIS

HOLE DESIGNATION: MW-DN-115I

DATE COMPLETED: July 27, 2006

DRILLING METHOD: 6" HAMMER

FIELD PERSONNEL: J. CLOSE

| DEPTH ft BGS | STRATIGRAPHIC DESCRIPTION & REMARKS | ELEV. ft AMSL | Monitoring Well | RUN NUMBER | CORE RECOVERY % | RQD % |
|-----------------|---|---------------------|--------------------|---------------|--------------------|-------|
| | GROUND SURFACE TOP OF RISER | 516.88 516.63 | | | | |
| 2 | GRAVEL and SAND, coarse sand, fine-coarse gravel, loose | | Concrete | | | |
| 4 | SANDSTONE, loose, fine grained, brown, dry | 513.88 | | | | |
| 6 | | | | | | |
| 8 | - gray at 7.0ft BGS | | | | | |
| 10 | | | 6" Borehole | | | |
| 12 | - black shale layers, soft from 11.0 to 12.0ft BGS | | | | | |
| 14 | | | | | | |
| 16 | - black shale layer, soft at 15.0ft BGS | | | | | |
| 18 | | | | | | |
| 20 | - little moisture at 18.0ft BGS | | Bentonite Grout | | | |
| 22 | | | | | | |
| 24 | - wet at 23.0ft BGS | | | | | |
| 26 | | | | | | |
| 28 | | | | | | |
| 30 | - little shale zone at 29.7ft BGS | 486.88 | 2" PVC Well Casing | | | |
| 32 | LIMESTONE, medium-coarse grained, chips, cohesive | | | | | |
| 34 | | | | | | |
| 36 | - little shale zone at 33.0ft BGS | | | | | |
| 38 | | | | | | |

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE

BEDROCK LOG 45136-23 - MW 104 109 112 TO 123 G.P.J. CRA CORP GDT 8/31/06



STRATIGRAPHIC AND INSTRUMENTATION LOG (BEDROCK)

Page 2 of 2

PROJECT NAME: DRESDEN GENERATING STATION

HOLE DESIGNATION: MW-DN-115I

PROJECT NUMBER: 45136-23

DATE COMPLETED: July 27, 2006

CLIENT: EXELON GENERATION COMPANY LLC

DRILLING METHOD: 6" HAMMER

LOCATION: MORRIS, ILLINOIS

FIELD PERSONNEL: J. CLOSE

| DEPTH ft BGS | STRATIGRAPHIC DESCRIPTION & REMARKS | ELEV. ft AMSL | Monitoring Well | RUN NUMBER | CORE RECOVERY % | RQD % |
|-----------------|--|---------------------|-----------------|---------------|--------------------|-------|
| 42 | - a lot of water at 43.0ft BGS | | | | | |
| 44 | dolomite limestone, very fine grained, crystalline, pale white-cream from 43.0 to 48.0ft BGS | | | | | |
| 46 | | | | | | |
| 48 | | | | | | |
| 50 | | | | | | |
| 52 | | | | | | |
| 54 | | | | | | |
| 56 | - little shale layer 0.5' at 56.0ft BGS | | | | | |
| 58 | | | | | | |
| 60 | | | | | | |
| 62 | | | | | | |
| 64 | END OF BOREHOLE @ 63.0ft BGS | 453.88 | | | | |
| 66 | | | | | | |
| 68 | | | | | | |
| 70 | | | | | | |
| 72 | | | | | | |
| 74 | | | | | | |
| 76 | | | | | | |
| 78 | | | | | | |

WELL DETAILS
Screened interval:
470.88 to 460.88ft AMSL
46.00 to 56.00ft BGS
Length: 10ft
Diameter: 2in
Slot Size: 10
Material: PVC
Sand Pack:
472.88 to 453.88ft AMSL
44.00 to 63.00ft BGS
Material: #5 Sand

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE

BEDROCK LOG 45136-23 - MW 104 109 112 TO 123 GPU CRA CORP GDT 8/3/06



STRATIGRAPHIC AND INSTRUMENTATION LOG (BEDROCK)

Page 1 of 1

PROJECT NAME: DRESDEN GENERATING STATION

HOLE DESIGNATION: MW-DN-115S

PROJECT NUMBER: 45136-23

DATE COMPLETED: July 28, 2006

CLIENT: EXELON GENERATION COMPANY LLC

DRILLING METHOD: 6" HAMMER

LOCATION: MORRIS, ILLINOIS

FIELD PERSONNEL: J. CLOSE

| DEPTH ft BGS | STRATIGRAPHIC DESCRIPTION & REMARKS | ELEV. ft AMSL | Monitoring Well | RUN NUMBER | CORE RECOVERY % | RQD % |
|-----------------|--|---------------------|--------------------|---------------|--------------------|-------|
| | GROUND SURFACE TOP OF RISER | 516.89 516.58 | | | | |
| 2 | SAND and GRAVEL (Fill), coarse sand, fine-coarse gravel, well graded, loose | 515.39 | Concrete | | | |
| 4 | SANDSTONE, fine grained, soft, powder | | 6" Borehole | | | |
| 6 | | | 2" PVC Well Casing | | | |
| 8 | | | Bentonite Pellets | | | |
| 10 | | | | | | |
| 12 | | | | | | |
| 14 | | | | | | |
| 16 | | | | | | |
| 18 | | | | | | |
| 20 | | | | | | |
| 22 | | | | | | |
| 24 | - little moisture at 23.0ft BGS | | Sand Pack | | | |
| 26 | | | 2" PVC Well Screen | | | |
| 28 | | | | | | |
| 30 | END OF BOREHOLE @ 30.0ft BGS | 486.89 | | | | |
| 32 | | | | | | |
| 34 | | | | | | |
| 36 | | | | | | |
| 38 | | | | | | |

WELL DETAILS

Screened interval:

491.89 to 486.89ft AMSL

25.00 to 30.00ft BGS

Length: 5ft

Diameter: 2in

Slot Size: 10

Material: PVC

Sand Pack:

494.89 to 486.89ft AMSL

22.00 to 30.00ft BGS

Material: #5 Sand

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE

BEDROCK LOG 45136-23 - MW 104 109 112 TO 123 G.P. CRA CORP GDT 8/31/06



STRATIGRAPHIC AND INSTRUMENTATION LOG (BEDROCK)

Page 1 of 2

PROJECT NAME: DRESDEN GENERATING STATION

PROJECT NUMBER: 45136-23

CLIENT: EXELON GENERATION COMPANY LLC

LOCATION: MORRIS, ILLINOIS

HOLE DESIGNATION: MW-DN-116I

DATE COMPLETED: July 24, 2006

DRILLING METHOD: 6" HAMMER

FIELD PERSONNEL: J. CLOSE

| DEPTH ft BGS | STRATIGRAPHIC DESCRIPTION & REMARKS | ELEV. ft AMSL | Monitoring Well | RUN NUMBER | CORE RECOVERY % | RQD % |
|-----------------|--|---------------------|-------------------------------|---------------|--------------------|-------|
| | GROUND SURFACE TOP OF RISER | 517.30 516.84 | | | | |
| 2 | SAND and GRAVEL (Fill)(overburden), coarse sand, fine-coarse gravel, loose | | Concrete | | | |
| 4 | | | | | | |
| 6 | SANDSTONE, brown, fine grained, soft | 512.05 | | | | |
| 8 | | | | | | |
| 10 | - gray sand at 10.0ft BGS | | 6" Borehole | | | |
| 12 | | | | | | |
| 14 | | | | | | |
| 16 | | | | | | |
| 18 | | | | | | |
| 20 | | | Bentonite Grout | | | |
| 22 | | | | | | |
| 24 | - wet at 24.5ft BGS | | | | | |
| 26 | | | | | | |
| 28 | LIMESTONE, fine grained, cohesive, trace pyrite | 490.30 | | | | |
| 30 | | | 2" PVC Well Casing | | | |
| 32 | | | 1/4" Coated Bentonite Tablets | | | |
| 34 | | | | | | |
| 36 | | | Sand Pack | | | |
| 38 | | | | | | |

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE

BEDROCK LOG 45136-23 - MW 104 109 112 TO 123 GPJ CRA CORP GDT 8/31/06



STRATIGRAPHIC AND INSTRUMENTATION LOG (BEDROCK)

Page 2 of 2

PROJECT NAME: DRESDEN GENERATING STATION

HOLE DESIGNATION: MW-DN-116I

PROJECT NUMBER: 45136-23

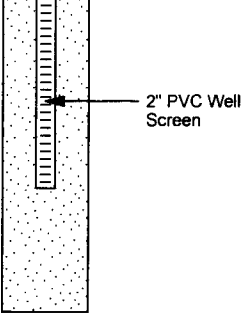
DATE COMPLETED: July 24, 2006

CLIENT: EXELON GENERATION COMPANY LLC

DRILLING METHOD: 6" HAMMER

LOCATION: MORRIS, ILLINOIS

FIELD PERSONNEL: J. CLOSE

| DEPTH ft BGS | STRATIGRAPHIC DESCRIPTION & REMARKS | ELEV. ft AMSL | Monitoring Well | RUN NUMBER | CORE RECOVERY % | RQD % | |
|--|--|---------------------|--|---------------|--------------------|-------|--|
| 42 | | | | | | | |
| 44 | | | | | | | |
| 46 | | | | | | | |
| 48 | | | | | | | |
| 50 | - shale, soft, dark gray at 49.0ft BGS END OF BOREHOLE @ 49.0ft BGS | 468.30 |  2" PVC Well Screen | | | | |
| 52 | | | WELL DETAILS Screened interval: 481.80 to 471.80ft AMSL 35.50 to 45.50ft BGS Length: 10ft Diameter: 2in Slot Size: 10 Material: PVC Sand Pack: 484.80 to 468.30ft AMSL 32.50 to 49.00ft BGS Material: 20/40 Sand | | | | |
| 54 | | | | | | | |
| 56 | | | | | | | |
| 58 | | | | | | | |
| 60 | | | | | | | |
| 62 | | | | | | | |
| 64 | | | | | | | |
| 66 | | | | | | | |
| 68 | | | | | | | |
| 70 | | | | | | | |
| 72 | | | | | | | |
| 74 | | | | | | | |
| 76 | | | | | | | |
| 78 | | | | | | | |
| NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE | | | | | | | |

BEDROCK LOG - 45136-23 - MW 104 109 112 TO 123.GPJ CRA_CORP.GDT 8/31/06



STRATIGRAPHIC AND INSTRUMENTATION LOG (BEDROCK)

Page 1 of 1

PROJECT NAME: DRESDEN GENERATING STATION

HOLE DESIGNATION: MW-DN-116S

PROJECT NUMBER: 45136-23

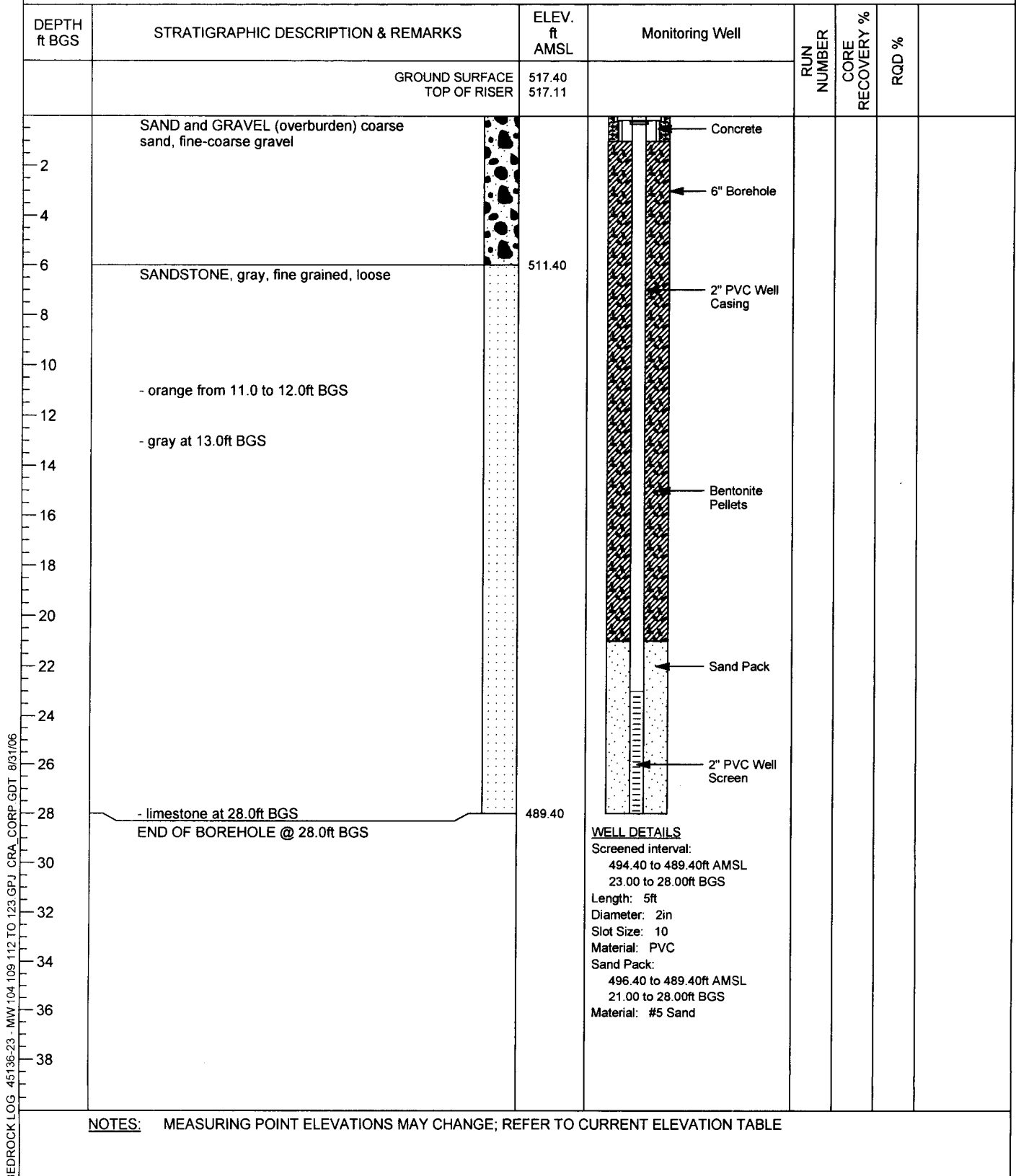
DATE COMPLETED: July 25, 2006

CLIENT: EXELON GENERATION COMPANY LLC

DRILLING METHOD: 6" HAMMER

LOCATION: MORRIS, ILLINOIS

FIELD PERSONNEL: J. CLOSE



BEDROCK LOG 45136-23 - MW 104 109 112 TO 123 GPJ CRA CORP GDT 8/31/06



STRATIGRAPHIC AND INSTRUMENTATION LOG (BEDROCK)

Page 1 of 2

PROJECT NAME: DRESDEN GENERATING STATION

HOLE DESIGNATION: MW-DN-117I

PROJECT NUMBER: 45136-23

DATE COMPLETED: July 25, 2006

CLIENT: EXELON GENERATION COMPANY LLC

DRILLING METHOD: 6" HAMMER

LOCATION: MORRIS, ILLINOIS

FIELD PERSONNEL: J. CLOSE

| DEPTH ft BGS | STRATIGRAPHIC DESCRIPTION & REMARKS | ELEV. ft AMSL | Monitoring Well | RUN NUMBER | CORE RECOVERY % | RQD % | |
|-----------------|---|---------------------|-----------------------|---------------|--------------------|-------|--|
| | TOP OF RISER GROUND SURFACE | 518.22 517.75 | | | | | |
| 2 | SAND and GRAVEL, coarse sand, fine-coarse gravel, cobbles, loose | | Concrete | | | | |
| 4 | | 513.25 | | | | | |
| 6 | SANDSTONE, loose, fine grained, gray - brown at 6.0ft BGS | | 6" Borehole | | | | |
| 8 | | | 2" PVC Well Casing | | | | |
| 10 | | | Bentonite Grout | | | | |
| 12 | | | | | | | |
| 14 | | | | | | | |
| 16 | | | | | | | |
| 18 | | | | | | | |
| 20 | | | | | | | |
| 22 | | | | | | | |
| 24 | | | | | | | |
| 26 | | | | | | | |
| 28 | - wet at 28.0ft BGS | | Bentonite Pellets | | | | |
| 30 | | 486.75 | | | | | |
| 32 | LIMESTONE, chips, consolidated, soft-hard, medium grained | | | | | | |
| 34 | | | | | | | |
| 36 | | | Sand Pack | | | | |
| 38 | | | | | | | |

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE

BEDROCK LOG 45136-23 - MW 104 109 112 TO 123.GPJ CRA_CORP.GDT 8/31/06



STRATIGRAPHIC AND INSTRUMENTATION LOG (BEDROCK)

Page 2 of 2

PROJECT NAME: DRESDEN GENERATING STATION

HOLE DESIGNATION: MW-DN-117I

PROJECT NUMBER: 45136-23

DATE COMPLETED: July 25, 2006

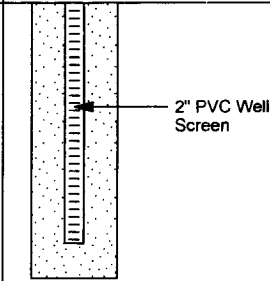
CLIENT: EXELON GENERATION COMPANY LLC

DRILLING METHOD: 6" HAMMER

LOCATION: MORRIS, ILLINOIS

FIELD PERSONNEL: J. CLOSE

| DEPTH ft BGS | STRATIGRAPHIC DESCRIPTION & REMARKS | ELEV. ft AMSL | Monitoring Well | RUN NUMBER | CORE RECOVERY % | RQD % |
|-----------------|-------------------------------------|---------------------|-----------------|---------------|--------------------|-------|
| 42 | | | | | | |
| 44 | | | | | | |
| 46 | | | | | | |
| 48 | SHALE, black | 470.75 | | | | |
| | END OF BOREHOLE @ 48.0ft BGS | 469.75 | | | | |
| 50 | | | | | | |
| 52 | | | | | | |
| 54 | | | | | | |
| 56 | | | | | | |
| 58 | | | | | | |
| 60 | | | | | | |
| 62 | | | | | | |
| 64 | | | | | | |
| 66 | | | | | | |
| 68 | | | | | | |
| 70 | | | | | | |
| 72 | | | | | | |
| 74 | | | | | | |
| 76 | | | | | | |
| 78 | | | | | | |



WELL DETAILS

Screened interval:

480.75 to 470.75ft AMSL

37.00 to 47.00ft BGS

Length: 10ft

Diameter: 2in

Slot Size: 10

Material: PVC

Sand Pack:

485.75 to 469.75ft AMSL

32.00 to 48.00ft BGS

Material: #5 Sand

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE

BEDROCK LOG 45136-23 - MW 104 109 112 TO 123 GPJ CRA CORP GDT 8/31/06



STRATIGRAPHIC AND INSTRUMENTATION LOG (BEDROCK)

Page 1 of 2

PROJECT NAME: DRESDEN GENERATING STATION
PROJECT NUMBER: 45136-23
CLIENT: EXELON GENERATION COMPANY LLC
LOCATION: MORRIS, ILLINOIS

HOLE DESIGNATION: MW-DN-118S
DATE COMPLETED: July 25, 2006
DRILLING METHOD: AIR ROTARY
FIELD PERSONNEL: C. PINTER

BEDROCK LOG 45136-23 - MW104 109 112 TO 123 GPJ CRA CORP GDT 8/31/06

| DEPTH ft BGS | STRATIGRAPHIC DESCRIPTION & REMARKS | ELEV. ft AMSL | Monitoring Well | RUN NUMBER | CORE RECOVERY % | RQD % |
|-----------------|-------------------------------------|---------------------|--------------------|---------------|--------------------|-------|
| | GROUND SURFACE TOP OF RISER | 516.38 516.13 | | | | |
| | Overburden cleared by air knife | | Concrete | | | |
| 2 | SANDSTONE, orange/brown, dry | 514.38 | 6" Borehole | | | |
| 4 | | | | | | |
| 6 | - gray, moist at 6.0ft BGS | | 2" PVC Well Casing | | | |
| 8 | | | Bentonite Pellets | | | |
| 10 | | | | | | |
| 12 | | | | | | |
| 14 | | | | | | |
| 16 | | | | | | |
| 18 | | | | | | |
| 20 | | | | | | |
| 22 | | | Sand Pack | | | |
| 24 | | | | | | |
| 26 | | | | | | |
| 28 | - wet at 27.0ft BGS | | 2" PVC Well Screen | | | |
| 30 | | | | | | |
| 32 | | | | | | |
| 34 | LIMESTONE, light gray, wet | 483.38 | | | | |
| 36 | END OF BOREHOLE @ 35.0ft BGS | 481.38 | | | | |
| 38 | | | | | | |

WELL DETAILS
Screened interval:
493.38 to 483.38ft AMSL
23.00 to 33.00ft BGS
Length: 10ft
Diameter: 2in
Slot Size: 10

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE



STRATIGRAPHIC AND INSTRUMENTATION LOG (BEDROCK)

Page 2 of 2

PROJECT NAME: DRESDEN GENERATING STATION

HOLE DESIGNATION: MW-DN-118S

PROJECT NUMBER: 45136-23

DATE COMPLETED: July 25, 2006

CLIENT: EXELON GENERATION COMPANY LLC

DRILLING METHOD: AIR ROTARY

LOCATION: MORRIS, ILLINOIS

FIELD PERSONNEL: C. PINTER

| DEPTH ft BGS | STRATIGRAPHIC DESCRIPTION & REMARKS | ELEV. ft AMSL | Monitoring Well | RUN NUMBER | CORE RECOVERY % | RQD % |
|-----------------|-------------------------------------|---------------------|---|---------------|--------------------|-------|
| 42 | | | Material: PVC Sand Pack: 493.38 to 481.38ft AMSL 23.00 to 35.00ft BGS Material: #7 Sand | | | |
| 44 | | | | | | |
| 46 | | | | | | |
| 48 | | | | | | |
| 50 | | | | | | |
| 52 | | | | | | |
| 54 | | | | | | |
| 56 | | | | | | |
| 58 | | | | | | |
| 60 | | | | | | |
| 62 | | | | | | |
| 64 | | | | | | |
| 66 | | | | | | |
| 68 | | | | | | |
| 70 | | | | | | |
| 72 | | | | | | |
| 74 | | | | | | |
| 76 | | | | | | |
| 78 | | | | | | |

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE

BEDROCK LOG 45136-23 - MW 104 109 112 TO 123.GPJ CRA_CORP.GDT 8/31/06



STRATIGRAPHIC AND INSTRUMENTATION LOG (BEDROCK)

Page 1 of 2

PROJECT NAME: DRESDEN GENERATING STATION
PROJECT NUMBER: 45136-23
CLIENT: EXELON GENERATION COMPANY LLC
LOCATION: MORRIS, ILLINOIS

HOLE DESIGNATION: MW-DN-119I
DATE COMPLETED: July 26, 2006
DRILLING METHOD: 6" HAMMER
FIELD PERSONNEL: J. CLOSE

| DEPTH ft BGS | STRATIGRAPHIC DESCRIPTION & REMARKS | ELEV. ft AMSL | Monitoring Well | RUN NUMBER | CORE RECOVERY % | RQD % | |
|--|---|---------------------|--------------------|---------------|--------------------|-------|--|
| | GROUND SURFACE TOP OF RISER | 518.45 517.97 | | | | | |
| 2 | SAND and GRAVEL (overburden) | | Concrete | | | | |
| 4 | | | | | | | |
| 6 | SANDSTONE, fine grained, loose, light brown, soft | 512.45 | | | | | |
| 8 | | | | | | | |
| 10 | - gray from 10.5 to 13.5ft BGS | | 6" Borehole | | | | |
| 12 | | | | | | | |
| 14 | - brown from 13.5 to 15.0ft BGS | | | | | | |
| 16 | - gray at 15.0ft BGS | | 2" PVC Well Casing | | | | |
| 18 | - wet at 18.0ft BGS | | | | | | |
| 20 | LIMESTONE, chips, medium-coarse grained, gray | 498.45 | Bentonite Grout | | | | |
| 22 | | | | | | | |
| 24 | | | | | | | |
| 26 | | | | | | | |
| 28 | - water bearing zone from 28.0 to 33.0ft BGS | | Bentonite Pellets | | | | |
| 30 | | | | | | | |
| 32 | | | Sand Pack | | | | |
| 34 | | | | | | | |
| 36 | | | | | | | |
| 38 | | | 2" PVC Well Screen | | | | |
| NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE | | | | | | | |

BEDROCK LOG 45136-23 - MW/104 109 112 TO 123 GPJ CRA_CORP.GDT 8/31/06



STRATIGRAPHIC AND INSTRUMENTATION LOG (BEDROCK)

Page 2 of 2

PROJECT NAME: DRESDEN GENERATING STATION
PROJECT NUMBER: 45136-23
CLIENT: EXELON GENERATION COMPANY LLC
LOCATION: MORRIS, ILLINOIS

HOLE DESIGNATION: MW-DN-119I
DATE COMPLETED: July 26, 2006
DRILLING METHOD: 6" HAMMER
FIELD PERSONNEL: J. CLOSE

| DEPTH ft BGS | STRATIGRAPHIC DESCRIPTION & REMARKS | ELEV. ft AMSL | Monitoring Well | RUN NUMBER | CORE RECOVERY % | RQD % |
|-----------------|-------------------------------------|---------------------|-----------------|---------------|--------------------|-------|
| 42 | SHALE | 476.45 | | | | |
| 44 | END OF BOREHOLE @ 43.0ft BGS | 475.45 | | | | |
| 46 | | | | | | |
| 48 | | | | | | |
| 50 | | | | | | |
| 52 | | | | | | |
| 54 | | | | | | |
| 56 | | | | | | |
| 58 | | | | | | |
| 60 | | | | | | |
| 62 | | | | | | |
| 64 | | | | | | |
| 66 | | | | | | |
| 68 | | | | | | |
| 70 | | | | | | |
| 72 | | | | | | |
| 74 | | | | | | |
| 76 | | | | | | |
| 78 | | | | | | |

WELL DETAILS

Screened interval:

486.45 to 476.45ft AMSL

32.00 to 42.00ft BGS

Length: 10ft

Diameter: 2in

Slot Size: 10

Material: PVC

Sand Pack:

488.45 to 475.45ft AMSL

30.00 to 43.00ft BGS

Material: #5 Sand

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE

BEDROCK LOG 45136-23 - MW 104 109 112 TO 123 GPJ CRA CORP GDT 8/31/06



STRATIGRAPHIC AND INSTRUMENTATION LOG (BEDROCK)

Page 1 of 1

PROJECT NAME: DRESDEN GENERATING STATION
PROJECT NUMBER: 45136-23
CLIENT: EXELON GENERATION COMPANY LLC
LOCATION: MORRIS, ILLINOIS

HOLE DESIGNATION: MW-DN-119S
DATE COMPLETED: July 26, 2006
DRILLING METHOD: 6" HAMMER
FIELD PERSONNEL: J. CLOSE

| DEPTH ft BGS | STRATIGRAPHIC DESCRIPTION & REMARKS | ELEV. ft AMSL | Monitoring Well | RUN NUMBER | CORE RECOVERY % | RQD % |
|-----------------|---|---------------------|-----------------------|---------------|--------------------|-------|
| | GROUND SURFACE TOP OF RISER | 516.52 516.16 | | | | |
| 2 | SAND and GRAVEL, loose, well graded, brown | | Concrete | | | |
| 4 | | | 6" Borehole | | | |
| 6 | SANDSTONE, sand, fine grained, loose, brown, wet due to other hole water pouring into soft dig hole | 511.52 | Bentonite Pellets | | | |
| 8 | | | 2" PVC Well Casing | | | |
| 10 | | | Sand Pack | | | |
| 12 | | | 2" PVC Well Screen | | | |
| 14 | | | | | | |
| 16 | | | | | | |
| 18 | | | | | | |
| 20 | LIMESTONE, medium grained | 496.52 | | | | |
| 22 | END OF BOREHOLE @ 21.0ft BGS | 495.52 | | | | |
| 24 | | | | | | |
| 26 | | | | | | |
| 28 | | | | | | |
| 30 | | | | | | |
| 32 | | | | | | |
| 34 | | | | | | |
| 36 | | | | | | |
| 38 | | | | | | |

Concrete

6" Borehole

Bentonite
Pellets

2" PVC Well
Casing

Sand Pack

2" PVC Well
Screen

WELL DETAILS
Screened interval:
500.52 to 495.52ft AMSL
16.00 to 21.00ft BGS
Length: 5ft
Diameter: 2in
Slot Size: 10
Material: PVC
Sand Pack:
502.52 to 495.52ft AMSL
14.00 to 21.00ft BGS
Material: #5 Sand

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE

BEDROCK LOG 45136-23 - MW 104 109 112 TO 123 GPJ CRA CORP GDT 8/31/06




STRATIGRAPHIC AND INSTRUMENTATION LOG (BEDROCK)

Page 1 of 2

PROJECT NAME: DRESDEN GENERATING STATION
PROJECT NUMBER: 45136-23
CLIENT: EXELON GENERATION COMPANY LLC
LOCATION: MORRIS, ILLINOIS

HOLE DESIGNATION: MW-DN-120I
DATE COMPLETED: July 21, 2006
DRILLING METHOD: AIR ROTARY
FIELD PERSONNEL: C. PINTER

| DEPTH ft BGS | STRATIGRAPHIC DESCRIPTION & REMARKS | ELEV. ft AMSL | Monitoring Well | RUN NUMBER | CORE RECOVERY % | RQD % |
|-----------------|--|---------------------|--|---------------|--------------------|-------|
| | TOP OF RISER GROUND SURFACE | 513.89 511.59 |  | | | |
| | Overburden cleared by air knife | | Concrete | | | |
| 2 | SANDSTONE, orange/brown, dry | 509.59 | | | | |
| 4 | - gray, moist at 4.0ft BGS | | 6" Borehole | | | |
| 6 | | | | | | |
| 8 | | | | | | |
| 10 | | | | | | |
| 12 | | | | | | |
| 14 | | | | | | |
| 16 | | | | | | |
| 18 | | | | | | |
| 20 | | | 2" PVC Well Casing | | | |
| 22 | | | | | | |
| 24 | | | | | | |
| 26 | | | | | | |
| 28 | | | | | | |
| 30 | | | Bentonite Grout | | | |
| 32 | | | | | | |
| 34 | | | | | | |
| 36 | | | | | | |
| 38 | LIMESTONE and SHALE, interbedded, gray/black, wet | 473.59 | | | | |

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE

BEDROCK LOG 45136-23 - MW/104 109 112 TO 123 GPJ CRA CORP GDT 8/31/06



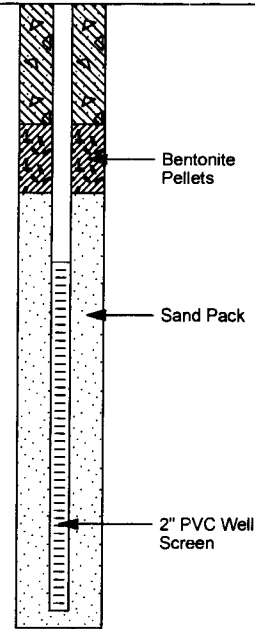
STRATIGRAPHIC AND INSTRUMENTATION LOG (BEDROCK)

Page 2 of 2

PROJECT NAME: DRESDEN GENERATING STATION
PROJECT NUMBER: 45136-23
CLIENT: EXELON GENERATION COMPANY LLC
LOCATION: MORRIS, ILLINOIS

HOLE DESIGNATION: MW-DN-120I
DATE COMPLETED: July 21, 2006
DRILLING METHOD: AIR ROTARY
FIELD PERSONNEL: C. PINTER

| DEPTH ft BGS | STRATIGRAPHIC DESCRIPTION & REMARKS | ELEV. ft AMSL | Monitoring Well | RUN NUMBER | CORE RECOVERY % | RQD % | |
|-----------------|-------------------------------------|---------------------|-----------------|---------------|--------------------|-------|--|
| 42 | | | | | | | |
| 44 | | | | | | | |
| 46 | | | | | | | |
| 48 | | | | | | | |
| 50 | | | | | | | |
| 52 | | | | | | | |
| 54 | | | | | | | |
| 56 | SHALE, dark green/black, wet | 456.59 | | | | | |
| 58 | END OF BOREHOLE @ 58.0ft BGS | 453.59 | | | | | |
| 60 | | | | | | | |
| 62 | | | | | | | |
| 64 | | | | | | | |
| 66 | | | | | | | |
| 68 | | | | | | | |
| 70 | | | | | | | |
| 72 | | | | | | | |
| 74 | | | | | | | |
| 76 | | | | | | | |
| 78 | | | | | | | |



WELL DETAILS
Screened interval:
464.09 to 454.09ft AMSL
47.50 to 57.50ft BGS
Length: 10ft
Diameter: 2in
Slot Size: 10
Material: PVC
Sand Pack:
466.09 to 453.59ft AMSL
45.50 to 58.00ft BGS
Material: #7 Sand

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE

BEDROCK LOG 45136-23 - MW 104 109 112 TO 123.GPJ CRA CORP.GDT 8/31/06


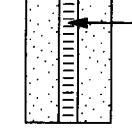


STRATIGRAPHIC AND INSTRUMENTATION LOG (BEDROCK)

Page 1 of 2

PROJECT NAME: DRESDEN GENERATING STATION
PROJECT NUMBER: 45136-23
CLIENT: EXELON GENERATION COMPANY LLC
LOCATION: MORRIS, ILLINOIS

HOLE DESIGNATION: MW-DN-120S
DATE COMPLETED: July 21, 2006
DRILLING METHOD: AIR ROTARY
FIELD PERSONNEL: C. PINTER

| DEPTH ft BGS | STRATIGRAPHIC DESCRIPTION & REMARKS | ELEV. ft AMSL | Monitoring Well | RUN NUMBER | CORE RECOVERY % | RQD % |
|--|-------------------------------------|---------------------|--|---------------|--------------------|-------|
| | TOP OF RISER GROUND SURFACE | 513.93 511.85 |  | | | |
| | Overburden cleared by air knife | | Concrete | | | |
| 2 | SANDSTONE, orange/brown, dry | 509.85 | 6" Borehole | | | |
| 4 | - gray, moist at 4.0ft BGS | | Bentonite Pellets | | | |
| 6 | | | 2" PVC Well Casing | | | |
| 8 | | | | | | |
| 10 | | | | | | |
| 12 | | | | | | |
| 14 | | | | | | |
| 16 | | | | | | |
| 18 | | | | | | |
| 20 | | | | | | |
| 22 | | | | | | |
| 24 | | | | | | |
| 26 | | | | | | |
| 28 | | | | | | |
| 30 | | | Sand Pack | | | |
| 32 | | | | | | |
| 34 | | | | | | |
| 36 | | | 2" PVC Well Screen | | | |
| 38 | END OF BOREHOLE @ 38.0ft BGS | 473.85 |  | | | |
| | | | WELL DETAILS Screened interval: | | | |
| NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE | | | | | | |

BEDROCK LOG 45136-23 - MW 104 109 112 TO 123.GPJ CRA_CORP.GDT 8/31/06



STRATIGRAPHIC AND INSTRUMENTATION LOG (BEDROCK)

Page 2 of 2

PROJECT NAME: DRESDEN GENERATING STATION
PROJECT NUMBER: 45136-23
CLIENT: EXELON GENERATION COMPANY LLC
LOCATION: MORRIS, ILLINOIS

HOLE DESIGNATION: MW-DN-120S
DATE COMPLETED: July 21, 2006
DRILLING METHOD: AIR ROTARY
FIELD PERSONNEL: C. PINTER

| DEPTH ft BGS | STRATIGRAPHIC DESCRIPTION & REMARKS | ELEV. ft AMSL | Monitoring Well | RUN NUMBER | CORE RECOVERY % | RQD % |
|-----------------|-------------------------------------|---------------------|--|---------------|--------------------|-------|
| 42 | | | 483.85 to 473.85ft AMSL 28.00 to 38.00ft BGS Length: 10ft Diameter: 2in Slot Size: 10 Material: PVC Sand Pack: 485.85 to 473.85ft AMSL 26.00 to 38.00ft BGS Material: #7 Sand | | | |
| 44 | | | | | | |
| 46 | | | | | | |
| 48 | | | | | | |
| 50 | | | | | | |
| 52 | | | | | | |
| 54 | | | | | | |
| 56 | | | | | | |
| 58 | | | | | | |
| 60 | | | | | | |
| 62 | | | | | | |
| 64 | | | | | | |
| 66 | | | | | | |
| 68 | | | | | | |
| 70 | | | | | | |
| 72 | | | | | | |
| 74 | | | | | | |
| 76 | | | | | | |
| 78 | | | | | | |

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE

BEDROCK LOG 45136-23 - MW 104 109 112 TO 123 GPJ CRA CORP GDT 8/31/06

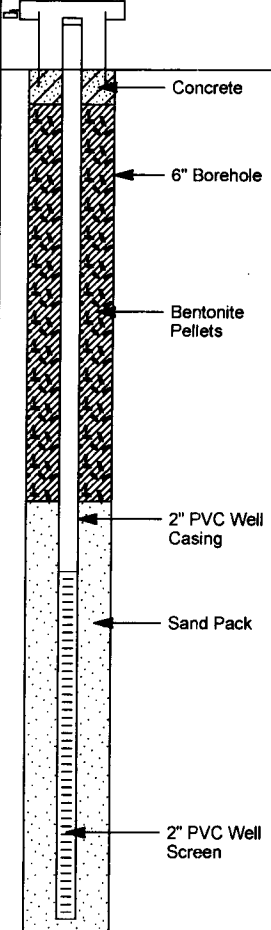


STRATIGRAPHIC AND INSTRUMENTATION LOG (BEDROCK)

Page 1 of 1

PROJECT NAME: DRESDEN GENERATING STATION
PROJECT NUMBER: 45136-23
CLIENT: EXELON GENERATION COMPANY LLC
LOCATION: MORRIS, ILLINOIS

HOLE DESIGNATION: MW-DN-121S
DATE COMPLETED: July 19, 2006
DRILLING METHOD: AIR ROTARY
FIELD PERSONNEL: C. PINTER

| DEPTH ft BGS | STRATIGRAPHIC DESCRIPTION & REMARKS | ELEV. ft AMSL | Monitoring Well | RUN NUMBER | CORE RECOVERY % | RQD % |
|-----------------|---|---------------------|---|---------------|--------------------|-------|
| | TOP OF RISER GROUND SURFACE | 518.63 515.93 |  | | | |
| 2 | Overburden cleared by air knife | | | | | |
| 4 | | | | | | |
| 6 | SANDSTONE, trace mica flakes, gray, moist | 509.93 | | | | |
| 8 | | | | | | |
| 10 | | | | | | |
| 12 | | | | | | |
| 14 | - water at 14.0ft BGS | | | | | |
| 16 | | | | | | |
| 18 | | | | | | |
| 20 | | | | | | |
| 22 | | | | | | |
| 24 | LIMESTONE, gray | 492.93 491.93 | | | | |
| 26 | END OF BOREHOLE @ 25.0ft BGS | | | | | |
| 28 | | | | | | |
| 30 | | | | | | |
| 32 | | | | | | |
| 34 | | | | | | |
| 36 | | | | | | |
| 38 | | | | | | |

WELL DETAILS
Screened interval:
501.43 to 491.43ft AMSL
14.50 to 24.50ft BGS
Length: 10ft
Diameter: 2in
Slot Size: 10
Material: PVC
Sand Pack:
503.43 to 490.93ft AMSL
12.50 to 25.00ft BGS

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE

BEDROCK LOG 45136-23 - MW 104 109 112 TO 123 GPJ CRA CORP GDT 8/31/06



STRATIGRAPHIC AND INSTRUMENTATION LOG (BEDROCK)

Page 1 of 2

PROJECT NAME: DRESDEN GENERATING STATION
PROJECT NUMBER: 45136-23
CLIENT: EXELON GENERATION COMPANY LLC
LOCATION: MORRIS, ILLINOIS

HOLE DESIGNATION: MW-DN-122I
DATE COMPLETED: July 19, 2006
DRILLING METHOD: AIR ROTARY
FIELD PERSONNEL: C. PINTER

| DEPTH ft BGS | STRATIGRAPHIC DESCRIPTION & REMARKS | ELEV. ft AMSL | Monitoring Well | RUN NUMBER | CORE RECOVERY % | RQD % |
|-----------------|---|---------------------|--------------------|---------------|--------------------|-------|
| | TOP OF RISER GROUND SURFACE | 528.18 525.53 | | | | |
| 2 | Overburden removed by air knife | | Concrete | | | |
| 4 | SANDSTONE, orange/brown, dry | 523.03 | | | | |
| 6 | | | | | | |
| 8 | | | | | | |
| 10 | LIMESTONE, gray/dark gray, very moist | 515.53 | 6" Borehole | | | |
| 12 | | | 2" PVC Well Casing | | | |
| 14 | | | Bentonite Grout | | | |
| 16 | | | | | | |
| 18 | | | | | | |
| 20 | | | | | | |
| 22 | | | | | | |
| 24 | | | | | | |
| 26 | | | | | | |
| 28 | | | | | | |
| 30 | | | Bentonite Pellets | | | |
| 32 | | | Sand Pack | | | |
| 34 | | | | | | |
| 36 | Interbedded limestone (dark gray) and shale (green/gray) | 490.53 | | | | |
| 38 | | | 2" PVC Well Screen | | | |

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE

BEDROCK LOG 45136-23 - MW 104 109 112 TO 123 GPJ CRA CORP GDT 8/31/06



STRATIGRAPHIC AND INSTRUMENTATION LOG (BEDROCK)

Page 2 of 2

PROJECT NAME: DRESDEN GENERATING STATION

HOLE DESIGNATION: MW-DN-1221

PROJECT NUMBER: 45136-23

DATE COMPLETED: July 19, 2006

CLIENT: EXELON GENERATION COMPANY LLC

DRILLING METHOD: AIR ROTARY

LOCATION: MORRIS, ILLINOIS

FIELD PERSONNEL: C. PINTER

| DEPTH ft BGS | STRATIGRAPHIC DESCRIPTION & REMARKS | ELEV. ft AMSL | Monitoring Well | RUN NUMBER | CORE RECOVERY % | RQD % |
|-----------------|-------------------------------------|---------------------|-----------------|---------------|--------------------|-------|
| 42 | SHALE, soft, green/gray | 484.53 | | | | |
| 44 | END OF BOREHOLE @ 43.0ft BGS | 482.53 | | | | |
| 46 | | | | | | |
| 48 | | | | | | |
| 50 | | | | | | |
| 52 | | | | | | |
| 54 | | | | | | |
| 56 | | | | | | |
| 58 | | | | | | |
| 60 | | | | | | |
| 62 | | | | | | |
| 64 | | | | | | |
| 66 | | | | | | |
| 68 | | | | | | |
| 70 | | | | | | |
| 72 | | | | | | |
| 74 | | | | | | |
| 76 | | | | | | |
| 78 | | | | | | |

WELL DETAILS

Screened interval:

492.73 to 482.73ft AMSL

32.80 to 42.80ft BGS

Length: 10ft

Diameter: 2in

Slot Size: 10

Material: PVC

Sand Pack:

494.73 to 482.53ft AMSL

30.80 to 43.00ft BGS

Material: #7 Sand

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE

BEDROCK LOG 45136-23 - MW 104 109 112 TO 123 GPFJ CRA CORP GDT 8/31/06

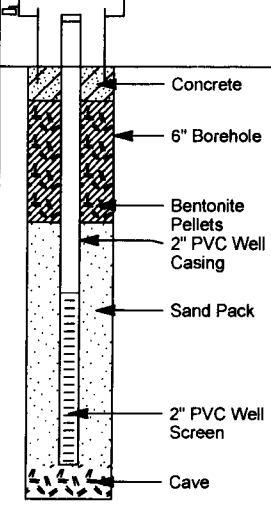


STRATIGRAPHIC AND INSTRUMENTATION LOG (BEDROCK)

Page 1 of 1

PROJECT NAME: DRESDEN GENERATING STATION
PROJECT NUMBER: 45136-23
CLIENT: EXELON GENERATION COMPANY LLC
LOCATION: MORRIS, ILLINOIS

HOLE DESIGNATION: MW-DN-122S
DATE COMPLETED: July 19, 2006
DRILLING METHOD: AIR ROTARY
FIELD PERSONNEL: C. PINTER

| DEPTH ft BGS | STRATIGRAPHIC DESCRIPTION & REMARKS | ELEV. ft AMSL | Monitoring Well | RUN NUMBER | CORE RECOVERY % | RQD % |
|-----------------|---------------------------------------|---------------------|--|---------------|--------------------|-------|
| | TOP OF RISER GROUND SURFACE | 528.43 525.72 |  | | | |
| 2 | Overburden removed by air knife | | | | | |
| 4 | SANDSTONE, orange/brown, dry | 523.22 | | | | |
| 6 | | | | | | |
| 8 | | | | | | |
| 10 | LIMESTONE, gray/dark gray, very moist | 515.72 | | | | |
| 12 | END OF BOREHOLE @ 12.5ft BGS | 513.22 | | | | |
| 14 | | | | | | |
| 16 | | | | | | |
| 18 | | | | | | |
| 20 | | | | | | |
| 22 | | | | | | |
| 24 | | | | | | |
| 26 | | | | | | |
| 28 | | | | | | |
| 30 | | | | | | |
| 32 | | | | | | |
| 34 | | | | | | |
| 36 | | | | | | |
| 38 | | | | | | |

WELL DETAILS
Screened interval:
519.22 to 514.22ft AMSL
6.50 to 11.50ft BGS
Length: 5ft
Diameter: 2in
Slot Size: 10
Material: PVC
Sand Pack:
521.22 to 514.22ft AMSL
4.50 to 11.50ft BGS
Material: #7 Sand

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE

BEDROCK LOG 45136-23 - MW 104 109 112 TO 123 GPJ CRA CORP GDT 8/31/06

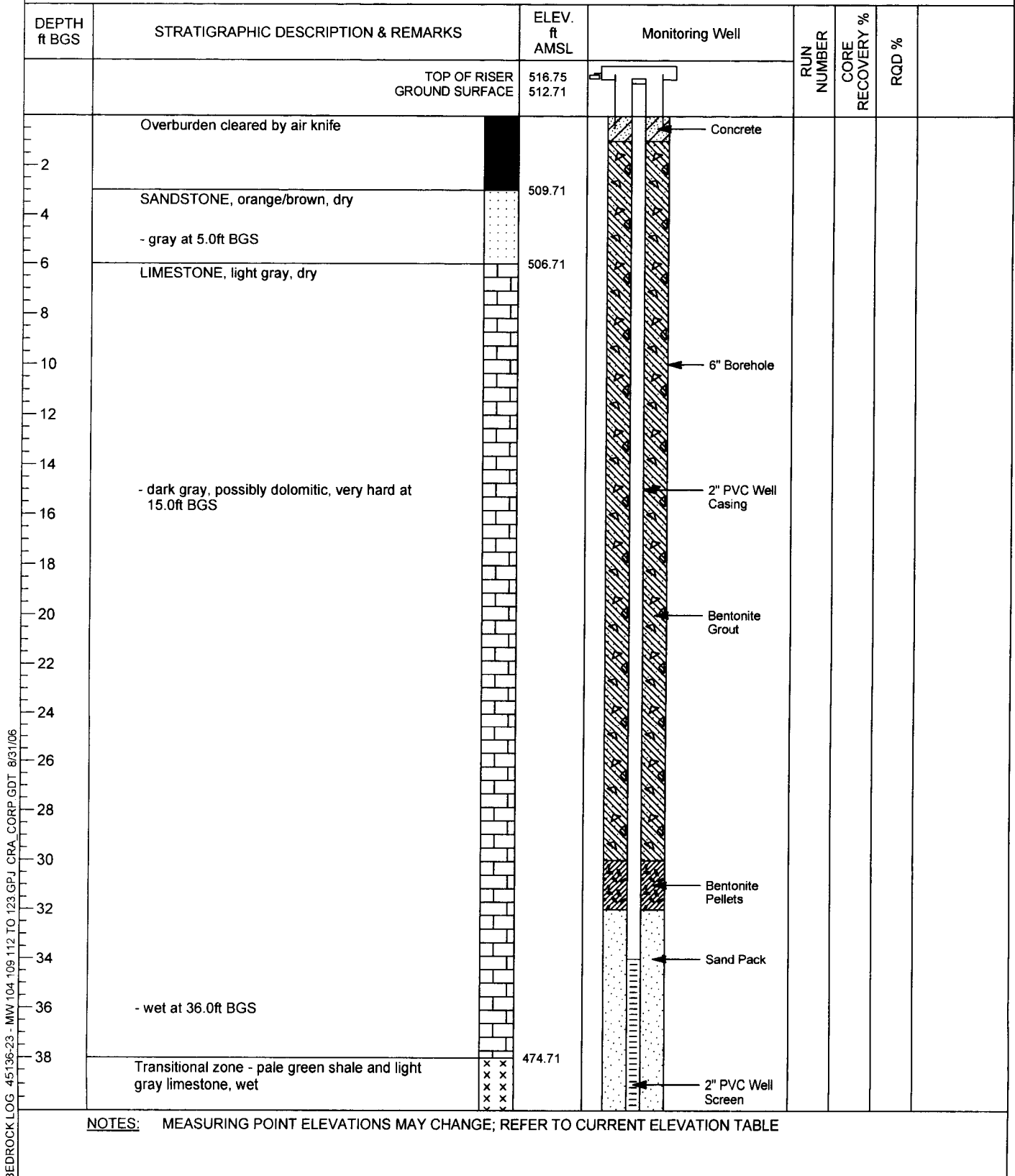


STRATIGRAPHIC AND INSTRUMENTATION LOG (BEDROCK)

Page 1 of 2

PROJECT NAME: DRESDEN GENERATING STATION
PROJECT NUMBER: 45136-23
CLIENT: EXELON GENERATION COMPANY LLC
LOCATION: MORRIS, ILLINOIS

HOLE DESIGNATION: MW-DN-123I
DATE COMPLETED: July 24, 2006
DRILLING METHOD: AIR ROTARY
FIELD PERSONNEL: C. PINTER



BEDROCK LOG 45136-23 - MW 104 109 112 TO 123 GPJ CRA CORP GDT 8/31/06



STRATIGRAPHIC AND INSTRUMENTATION LOG (BEDROCK)

Page 2 of 2

PROJECT NAME: DRESDEN GENERATING STATION
PROJECT NUMBER: 45136-23
CLIENT: EXELON GENERATION COMPANY LLC
LOCATION: MORRIS, ILLINOIS

HOLE DESIGNATION: MW-DN-123I
DATE COMPLETED: July 24, 2006
DRILLING METHOD: AIR ROTARY
FIELD PERSONNEL: C. PINTER

| DEPTH ft BGS | STRATIGRAPHIC DESCRIPTION & REMARKS | ELEV. ft AMSL | Monitoring Well | RUN NUMBER | CORE RECOVERY % | RQD % |
|-----------------|-------------------------------------|---------------------|---|---------------|--------------------|-------|
| 42 | | | | | | |
| 44 | | | | | | |
| 46 | END OF BOREHOLE @ 44.5ft BGS | 468.21 | WELL DETAILS Screened interval: 478.71 to 468.71ft AMSL 34.00 to 44.00ft BGS Length: 10ft Diameter: 2in Slot Size: 10 Material: PVC Sand Pack: 480.71 to 468.21ft AMSL 32.00 to 44.50ft BGS Material: #5 Sand | | | |
| 48 | | | | | | |
| 50 | | | | | | |
| 52 | | | | | | |
| 54 | | | | | | |
| 56 | | | | | | |
| 58 | | | | | | |
| 60 | | | | | | |
| 62 | | | | | | |
| 64 | | | | | | |
| 66 | | | | | | |
| 68 | | | | | | |
| 70 | | | | | | |
| 72 | | | | | | |
| 74 | | | | | | |
| 76 | | | | | | |
| 78 | | | | | | |

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE

BEDROCK LOG 45136-23 - MW 104 109 112 TO 123 GPJ CRA CORP GDT 8/31/06

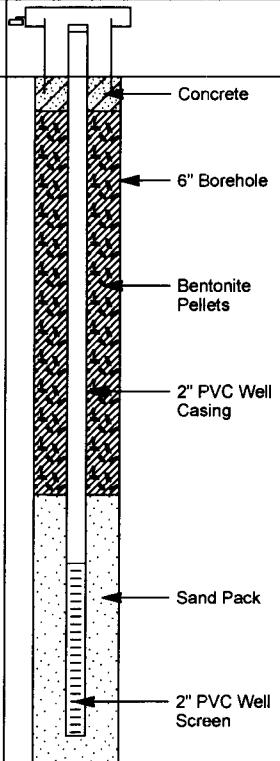


STRATIGRAPHIC AND INSTRUMENTATION LOG (BEDROCK)

Page 1 of 1

PROJECT NAME: DRESDEN GENERATING STATION
PROJECT NUMBER: 45136-23
CLIENT: EXELON GENERATION COMPANY LLC
LOCATION: MORRIS, ILLINOIS

HOLE DESIGNATION: MW-DN-123S
DATE COMPLETED: July 24, 2006
DRILLING METHOD: AIR ROTARY
FIELD PERSONNEL: J. CLOSE

| DEPTH ft BGS | STRATIGRAPHIC DESCRIPTION & REMARKS | ELEV. ft AMSL | Monitoring Well | RUN NUMBER | CORE RECOVERY % | RQD % |
|-----------------|--|---------------------|--|---------------|--------------------|-------|
| | TOP OF RISER GROUND SURFACE | 515.03 512.98 |  | | | |
| 2 | Overburden cleared by air knife | | Concrete | | | |
| 4 | SANDSTONE, orange/brown, dry | 509.98 | 6" Borehole | | | |
| 6 | - gray at 5.0ft BGS | 506.98 | Bentonite Pellets | | | |
| 8 | LIMESTONE, light gray, dry | | 2" PVC Well Casing | | | |
| 10 | | | | | | |
| 12 | | | | | | |
| 14 | | | | | | |
| 16 | - dark gray, possibly dolomitic, very hard at 15.0ft BGS | | Sand Pack | | | |
| 18 | | | 2" PVC Well Screen | | | |
| 20 | END OF BOREHOLE @ 20.0ft BGS | 492.98 | | | | |
| 22 | | | WELL DETAILS Screened interval: 498.98 to 493.98ft AMSL 14.00 to 19.00ft BGS Length: 5ft Diameter: 2in Slot Size: 10 Material: PVC Sand Pack: 500.98 to 492.98ft AMSL 12.00 to 20.00ft BGS Material: #5 Sand | | | |
| 24 | | | | | | |
| 26 | | | | | | |
| 28 | | | | | | |
| 30 | | | | | | |
| 32 | | | | | | |
| 34 | | | | | | |
| 36 | | | | | | |
| 38 | | | | | | |

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE

BEDROCK LOG 45136-23 - MW 104 109 112 TO 123.GPJ CRA CORP.GDT 8/31/06

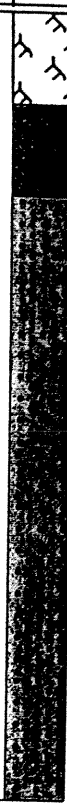


Boring Log

Boring #: DSP-157S

Sheet 1 of 1

| | | |
|--------------------------------|----------------------------------|-------------------------------------|
| Project: Dresden Power Station | Drill Rig Type: Gus Pech GP-750C | Location: Dresden, Illinois |
| Project #: EXENW-18513-320 | Method: | Northing: 6421.84 Easting: 14728.71 |
| Client: Exelon Nuclear | Bit Type: 4 1/4" ID Auger | Ground Elevation (ft. msl): 518.59 |
| Contractor: TSC | Boring Diameter: | Total Depth (ft. bgs): 13.00 |
| Start Date: 02/25/2005 | Backfill: Bentonite Chips | Logged By: Torrey Morris |
| Finish Date: 02/25/2005 | Completion: | Checked by: |
| Sample Method: | | Depth to Groundwater: |

| Sample | | | | Graphic | Depth (ft. bgs) | Soil and Rock Description Classification Scheme: USCS/ASTM | Elevation (ft. msl) | Drilling Progress | Comments |
|------------------|---------------------------------|--------------|---------------------|--|--------------------|--|------------------------|----------------------|----------|
| Type & Number | Back- ground PID (ppm) | PID (ppm) | Sampled Interval | | | | | | |
| | | | |  | 0 | TOPSOIL: Topsoil, soft, moist, black to dark brown (Gley 1 2.5/1). | | | |
| | | | | | | CLAY: Sandy Lean Clay, soft, moist, yellowish brown (10YR 6/3) to redish yellow (7.5YR 6/8). | | | |
| | | | | | 5 | SANDSTONE: Sandstone, hard, moist to very moist, pale brown (10YR 6/3) from 3 to 6 feet, gray (10YR 6/1) from 6 foot to depth. | 515 | | |
| | | | | | 10 | | 510 | | |

Remarks and Datum Used:

The RETEC Group, Inc.
8805 W. Bryn Mawr Ave, Ste. 301
Chicago, IL 60631
Phone: (773) 714-9900
Fax: (773) 714-9805

Sample Type
SS = Soil Sample



Boring Log

Boring #: DSP-157M
Sheet 1 of 1

| | | |
|--------------------------------|----------------------------------|-------------------------------------|
| Project: Dresden Power Station | Drill Rig Type: Gus Pech GP-750C | Location: Dresden, Illinois |
| Project #: EXENW-18513-320 | Method: | Northing: 8421.61 Easting: 14721.74 |
| Client: Exelon Nuclear | Bit Type: 6" Tricone | Ground Elevation (ft. msl): 518.47 |
| Contractor: TSC | Boring Diameter: | Total Depth (ft. bgs): 53.75 |
| Start Date: 02/17/2005 | Backfill: Bentonite Chips | Logged By: Torrey Morris |
| Finish Date: 02/21/2005 | Completion: | Checked by: |
| Sample Method: | Depth to Groundwater: | |

| Sample | | | | Graphic | Depth (ft. bgs) | Soil and Rock Description Classification Scheme: USCS/ASTM | Elevation (ft. msl) | Drilling Progress | Comments |
|------------------|---------------------------------|--------------|---------------------|---------|--------------------|---|------------------------|----------------------|----------|
| Type & Number | Back- ground PID (ppm) | PID (ppm) | Sampled Interval | | | | | | |
| | | | | | 0 | TOPSOIL: Topsoil, soft, moist, black to dark brown (Gley 1 2.5/1). | | | |
| | | | | | 5 | CLAY: Sandy Lean Clay, soft, moist, yellowish brown (10YR 5/4). | 515 | | |
| | | | | | 10 | SANDSTONE: Sandstone, hard, moist to wet, pale brown (10YR 6/3) to gray (10YR 6/1). | 510 | | |
| | | | | | 15 | | 505 | | |
| | | | | | 20 | | 500 | | |
| | | | | | 25 | | 495 | | |
| | | | | | 30 | LIMESTONE: Limestone, very hard, wet, white to light gray (5Y 7/1) to pinkish white (7.5YR 8/2), occasional pyrite, clay and sand stringers. | 490 | | |
| | | | | | 35 | | 485 | | |
| | | | | | 40 | | 480 | | |
| | | | | | 45 | LIMESTONE: Transitional zone, Limestone and Shale interbedding, Limestone (same as above) majority of zone, Shale (weathered small servaral inch thick lenses), hard, wet, pale green (Gley 1 6/2). | 475 | | |
| | | | | | 50 | | 470 | | |
| | | | | | | SHALE: Shale, hard, moist to wet, very dard greenish gray (Gley 1 3/1). | 465 | | |

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Sample Type

SS = Soil Sample



Boring Log

Boring #: DSP-157D
Sheet 1 of 3


| | | |
|--------------------------------|---------------------------------|-------------------------------------|
| Project: Dresden Power Station | Drill Rig Type:Gus Pech GP-750C | Location: Dresden, Illinois |
| Project #: EXENW-18513-320 | Method: | Northing: 6420.97 Easting: 14714.44 |
| Client: Exelon Nuclear | Bit Type: 8" Tricone | Ground Elevation (ft. msl): 518.48 |
| Contractor: TSC | Boring Diameter: | Total Depth (ft. bgs): 130.50 |
| Start Date: 02/16/2005 | Backfill: Bentonite Chips | Logged By: Torrey Morris |
| Finish Date: 02/25/2005 | Completion: | Checked by: |
| Sample Method: | | Depth to Groundwater: |

| Sample | | | | Graphic | Depth (ft. bgs) | Soil and Rock Description Classification Scheme: USCS/ASTM | Elevation (ft. msl) | Drilling Progress | Comments |
|------------------|---------------------------------|--------------|---------------------|---------|--------------------|---|------------------------|----------------------|----------|
| Type & Number | Back- ground PID (ppm) | PID (ppm) | Sampled Interval | | | | | | |
| | | | | | 0 | TOPSOIL: Topsoil, soft, moist, black to dark brown (Gley 1 2.5/1). | | | |
| | | | | | 5 | CLAY: Sandy Lean Clay, soft, moist, yellowish brown (10YR 5/4). | 515 | | |
| | | | | | 10 | SANDSTONE: Sandstone, hard, moist to wet, pale brown (10YR 6/3) to gray (10YR 6/1), black mica stringers. | 510 | | |
| | | | | | 15 | | 505 | | |
| | | | | | 20 | | 500 | | |
| | | | | | 25 | LIMESTONE: Limestone, hard, wet, white to light gray (5Y 7/1), pyrite, clay stringers. | 495 | | |
| | | | | | 30 | | 490 | | |
| | | | | | 35 | | 485 | | |
| | | | | | | | 480 | | |

Remarks and Datum Used:

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Chicago, IL 60631
Phone: (773) 714-9900
Fax: (773) 714-9805

Sample Type
SS = Soil Sample

| Sample | | | | Graphic | Depth (ft. bgs) | Soil and Rock Description Classification Scheme: USCS/ASTM | Elevation (ft. msl.) | Drilling Progress | Comments |
|------------------|---------------------------------|--------------|---------------------|--|--------------------|---|-------------------------|----------------------|----------|
| Type & Number | Back- ground PID (ppm) | PID (ppm) | Sampled Interval | | | | | | |
| | | | |  | 40 | | | | |
| | | | | | | | | | |
| | | | | | | LIMESTONE: Transitional zone, Limestone, Sandstone and Shale Interbedding, Limestone (same as above) majority of zone, Shale (weathered small several inch thick lenses), hard, wet, pale green (Gley 1 6/2), at 41.5 to 42 feet Sandstone lense. | 475 | | |
| | | | | | | SHALE: Shale (weathered), hard, wet, pale green (Gley 1 6/2). | 470 | | |
| | | | | | | SHALE: Shale, hard, wet, very dark greenish gray (Gley 1 3/1). | | | |
| | | | | | | | 465 | | |
| | | | | | | | 460 | | |
| | | | | | | | 455 | | |
| | | | | | | | 450 | | |
| | | | | | | | 445 | | |
| | | | | | | 440 | | | |
| | | | | | | 435 | | | |
| | | | | | 85 | | | | |

Remarks and Datum Used:

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Sample Type
 SS = Soil Sample



Boring Log

Boring #: DSP-157D

Sheet 3 of 3

| Sample | | | | Graphic | Depth (ft. bgs) | Soil and Rock Description Classification Scheme: USCS/ASTM | Elevation (ft. msl) | Drilling Progress | Comments |
|------------------|---------------------------------|--------------|---------------------|---------|--------------------|---|------------------------|----------------------|----------|
| Type & Number | Back- ground PID (ppm) | PID (ppm) | Sampled Interval | | | | | | |
| | | | | | 90 | | 430 | | |
| | | | | | 95 | | 425 | | |
| | | | | | 100 | | 420 | | |
| | | | | | 105 | | 415 | | |
| | | | | | 110 | | 410 | | |
| | | | | | 115 | | 405 | | |
| | | | | | 120 | DOLOMITE: Dolomite, very hard, moist to wet, light brownish gray (2.5Y 6/2), crystalline, pyrite stringers. | 400 | | |
| | | | | | 125 | | 395 | | |
| | | | | | 130 | | 390 | | |

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Fax: (773) 714-8805

Sample Type

SS = Soil Sample



Boring Log

Boring #: DSP-158S

Sheet 1 of 1

| | | |
|--------------------------------|----------------------------------|-------------------------------------|
| Project: Dresden Power Station | Drill Rig Type: Gus Pech GP-750C | Location: Dresden, Illinois |
| Project #: EXENW-18513-320 | Method: | Northing: 5438.73 Easting: 15942.48 |
| Client: Exelon Nuclear | Bit Type: 4 1/4" ID Auger | Ground Elevation (ft. msl): 507.73 |
| Contractor: TSC | Boring Diameter: | Total Depth (ft. bgs): 13.50 |
| Start Date: 02/28/2005 | Backfill: Bentonite Chips | Logged By: Torrey Morris |
| Finish Date: 03/04/2005 | Completion: | Checked by: |
| Sample Method: | Depth to Groundwater: | |

| Sample | | | | Graphic | Depth (ft. bgs) | Soil and Rock Description Classification Scheme: USCS/ASTM | Elevation (ft. msl) | Drilling Progress | Comments |
|------------------|---------------------------------|--------------|---------------------|---------|--------------------|---|------------------------|----------------------|----------|
| Type & Number | Back- ground PID (ppm) | PID (ppm) | Sampled Interval | | | | | | |
| | | | | | 0 | TOPSOIL: Topsoil, soft, moist, black to dark brown (Gley 1 2.5/1). | | | |
| | | | | | | CLAY: Sandy Lean Clay, soft, moist, light yellowish brown (2.5Y 6/4). | 505 | | |
| | | | | | 5 | CLAY: Lean Clay with sand, hard, moist, pale yellow (5Y 7/3). | 500 | | |
| | | | | | 10 | LIMSTONE: Limestone, very hard, moist, white (5Y 8/1) to gray (5Y5/1), crystalline. | 495 | | |

Remarks and Datum Used:

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Chicago, IL 60631
Phone: (773) 714-8900
Fax: (773) 714-8805

Sample Type

SS = Soil Sample



Boring Log

Boring #: DSP-158M

Sheet 1 of 1

| | | |
|--------------------------------|---------------------------------|-------------------------------------|
| Project: Dresden Power Station | Drill Rig Type:Gus Pech GP-750C | Location: Dresden, Illinois |
| Project #: EXENW-18513-320 | Method: | Northing: 5442.41 Easting: 15939.08 |
| Client: Exelon Nuclear | Bit Type: 6" Air Hammer | Ground Elevation (ft. msl): 507.97 |
| Contractor: TSC | Boring Diameter: | Total Depth (ft. bgs): 57.50 |
| Start Date: 03/02/2005 | Backfill: Bentonite Chips | Logged By: Torrey Morris |
| Finish Date: 03/02/2005 | Completion: | Checked by: |
| Sample Method: | | Depth to Groundwater: |

| Sample | | | | Graphic | Depth (ft. bgs) | Soil and Rock Description Classification Scheme: USCS/ASTM | Elevation (ft. msl) | Drilling Progress | Comments |
|------------------|---------------------------------|--------------|---------------------|---------|--------------------|---|------------------------|----------------------|----------|
| Type & Number | Back- ground PID (ppm) | PID (ppm) | Sampled Interval | | | | | | |
| | | | | | 0 | TOPSOIL: Topsoil, soft, moist, black to dark brown (Gley 1 2.5/1). | | | |
| | | | | | 5 | CLAY: Sandy Lean Clay, soft, moist, yellowish brown (2.5Y 6/4). | 505 | | |
| | | | | | 10 | CLAY: Lean Clay, stiff, moist, redish yellow (5YR 6/8) to gray (Gley 1 6/N) to dark gray (Gley 1 4/N), laminated. | 500 | | |
| | | | | | 15 | LIMESTONE: Limestone, very hard, dry to very moist, crystalline, light gray (Gley 1 7/N) to gray (Gley 1 6/N) 11 to 22 feet bgs, light greenish gray (Gley 1 8/1) to white (Gley 1 8/N) below 22, small very dark gray (Gley 1 3/N) shale stringers from 11 to 22 feet bgs, | 495 | | |
| | | | | | 20 | | 490 | | |
| | | | | | 25 | | 485 | | |
| | | | | | 30 | | 480 | | |
| | | | | | 35 | | 475 | | |
| | | | | | 40 | | 470 | | |
| | | | | | 45 | | 465 | | |
| | | | | | 50 | LIMESTONE: Transitional zone, Limestone and Shale interbedding, Limestone (same as above) majority of zone, Shale (weathered small several inch thick lenses), hard, wet, pale green (Gley 1 6/2). | 460 | | |
| | | | | | 55 | SHALE: Shale, hard, moist to wet, very dark greenish gray (Gley 1 3/1). | 455 | | |

Remarks and Datum Used:

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Sample Type

SS = Soil Sample



Boring Log

Boring #: DSP-158D

Sheet 1 of 3

| | | |
|--------------------------------|----------------------------------|-------------------------------------|
| Project: Dresden Power Station | Drill Rig Type: Gus Pech GP-750C | Location: Dresden, Illinois |
| Project #: EXENW-18513-320 | Method: | Northing: 5448.08 Easting: 15934.92 |
| Client: Exelon Nuclear | Bit Type: 8" & 6" Air Hammer | Ground Elevation (ft. msl): 507.79 |
| Contractor: TSC | Boring Diameter: | Total Depth (ft. bgs): 135.00 |
| Start Date: 02/25/2005 | Backfill: Bentonite Chips | Logged By: Torrey Morris |
| Finish Date: 03/03/2005 | Completion: | Checked by: |
| Sample Method: | Depth to Groundwater: | |

| Sample | | | | Graphic | Depth (ft. bgs) | Soil and Rock Description Classification Scheme: USCS/ASTM | Elevation (ft. msl) | Drilling Progress | Comments |
|------------------|---------------------------------|--------------|---------------------|---------|--------------------|---|------------------------|----------------------|----------|
| Type & Number | Back- ground PID (ppm) | PID (ppm) | Sampled Interval | | | | | | |
| | | | | | 0 | TOPSOIL: Topsoil, soft, moist, black to dark brown (Gley 1 2.5/1). | | | |
| | | | | | 5 | CLAY: Sandy Lean Clay, moist, soft, light yellowish brown (2.5Y 6/4). | 505 | | |
| | | | | | 10 | CLAY: Lean Clay, hard, moist, dark gray (Gley 1 4/N), some Limestone pieces mixed in clay. | 500 | | |
| | | | | | 15 | LIMESTONE: Limestone, very hard, dry to wet, light gray (Gley 1 7/N) to gray (Gley 1 6/N), crystalline, fossils can be seen in larger cuttings. | 495 | | |
| | | | | | 20 | | 490 | | |
| | | | | | 25 | | 485 | | |
| | | | | | 30 | | 480 | | |
| | | | | | 35 | | 475 | | |
| | | | | | 40 | | 470 | | |
| | | | | | | | | | |

Remarks and Datum Used:

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Phone: (773) 714-9900
Fax: (773) 714-9805

Sample Type

SS = Soil Sample



Boring Log

Boring #: DSP-158D

Sheet 2 of 3

| Sample | | | | Graphic | Depth (ft. bgs) | Soil and Rock Description Classification Scheme: USCS/ASTM | Elevation (ft. msl) | Drilling Progress | Comments |
|------------------|---------------------------------|--------------|---------------------|---------|--------------------|---|------------------------|----------------------|----------|
| Type & Number | Back- ground PID (ppm) | PID (ppm) | Sampled Interval | | | | | | |
| | | | | | 45 | | 465 | | |
| | | | | | 50 | LIMESTONE: Transitional zone, Limestone and Shale interbedding, Limestone (same as above with color change to light greenish gray (Gley 1 8/1)), Shale (weathered small several inch thick lenses), hard, wet, pale green (Gley 1 6/2). | 460 | | |
| | | | | | 55 | SHALE: Shale, hard, wet, very dark greenish gray (Gley 1 3/1). | 455 | | |
| | | | | | 60 | | 450 | | |
| | | | | | 65 | | 445 | | |
| | | | | | 70 | | 440 | | |
| | | | | | 75 | | 435 | | |
| | | | | | 80 | | 430 | | |
| | | | | | 85 | | 425 | | |
| | | | | | 90 | | 420 | | |
| | | | | | | | 415 | | |

Remarks and Datum Used:

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Sample Type
SS = Soil Sample



Boring Log

Boring #: DSP-158D

Sheet 3 of 3

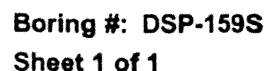
| Sample | | | | Graphic | Depth (ft. bgs) | Soil and Rock Description Classification Scheme: USCS/ASTM | Elevation (ft. msl) | Drilling Progress | Comments |
|------------------|---------------------------------|--------------|---------------------|---------|--------------------|---|------------------------|----------------------|----------|
| Type & Number | Back- ground PID (ppm) | PID (ppm) | Sampled Interval | | | | | | |
| | | | | | 95 | | | | |
| | | | | | | | 410 | | |
| | | | | | 100 | | | | |
| | | | | | | | 405 | | |
| | | | | | 105 | | | | |
| | | | | | | | 400 | | |
| | | | | | 110 | | | | |
| | | | | | | | 395 | | |
| | | | | | 115 | | | | |
| | | | | | | | 390 | | |
| | | | | | 120 | | | | |
| | | | | | | DOLOMITE: Dolomite, very hard, moist to wet, light brownish gray (2.5Y 6/2), crystalline | 385 | | |
| | | | | | 125 | | | | |
| | | | | | | | 380 | | |
| | | | | | 130 | | | | |
| | | | | | | | 375 | | |
| | | | | | 135 | | | | |

Remarks and Datum Used:

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Chicago, IL 60631
Phone: (773) 714-8900
Fax: (773) 714-8805

Sample Type

SS = Soil Sample




| | | |
|---|--|--|
| Remarks and Datum Used: The RETEC Group, Inc. 8805 W. Bryn Mawr Ave, Ste. 301 Chicago, IL 60631 Phone: (773) 714-9900 Fax: (773) 714-9805 | | Sample Type SS = Soil Sample |
|---|--|--|



Boring Log

Boring #: DSP-159M
Sheet 1 of 1

| | | |
|--------------------------------|----------------------------------|---------------------------------------|
| Project: Dresden Power Station | Drill Rig Type: Gus Pech GP-750C | Location: Dresden, Illinois |
| Project #: EXENW-18513-320 | Method: | Northing: 3969.14 Easting: 14863.65 |
| Client: Exelon Nuclear | Bit Type: 6" Air Hammer | Ground Elevation (ft. msl): 516.23 |
| Contractor: TSC | Boring Diameter: | Total Depth (ft. bgs): 59.30 |
| Start Date: 03/11/2005 | Backfill: Bentonite Chips | Logged By: Torrey Morris/Randy Mackay |
| Finish Date: 03/14/2005 | Completion: | Checked by: |
| Sample Method: | | Depth to Groundwater: |

| Sample | | | | Graphic | Depth (ft. bgs) | Soil and Rock Description Classification Scheme: USCS/ASTM | Elevation (ft. msl) | Drilling Progress | Comments |
|------------------|---------------------------------|--------------|---------------------|--|--------------------|--|------------------------|----------------------|----------|
| Type & Number | Back- ground PID (ppm) | PID (ppm) | Sampled Interval | | | | | | |
| | | | |  | 0 | FILL: Fill | 515 | | |
| | | | | | 5 | | 510 | | |
| | | | | | 10 | CLAY: Sandy Lean Clay, soft, very moist, yellowish brown (10YR 5/4). | 505 | | |
| | | | | | 15 | LIMESTONE: Limestone, light blueish gray (Gley 2 7/1), with white (Gley 1 8/1) speckles, texture is microcrystalline to fine grained, conformable, dry, small Shale lenses throughout dark blueish gray (Gley 2 4/1) to pale green (Gley 1 6/2), fractured, pyrite stringers | 500 | | |
| | | | | | 20 | | 495 | | |
| | | | | | 25 | | 490 | | |
| | | | | | 30 | | 485 | | |
| | | | | | 35 | | 480 | | |
| | | | | | 40 | | 475 | | |
| | | | | | 45 | | 470 | | |
| | | | | | 50 | | 465 | | |
| | | | | | 55 | SHALE: Shale, hard moist to very moist, gray (Gley 1 10Y 5/1) to very dark greenish gray (Gley 1 3/1) when wet, slightly fractured to fractured, conformable, strong, microcrystalline, uniform, fresh, competent, shear, undulating to planar, clean, pyrite nodules. | 460 | | |

Remarks and Datum Used:

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Sample Type

SS = Soil Sample



Boring Log

Boring #: DSP-159D

Sheet 1 of 3

| | | |
|--------------------------------|----------------------------------|---------------------------------------|
| Project: Dresden Power Station | Drill Rig Type: Gus Pech GP-750C | Location: Dresden, Illinois |
| Project #: EXENW-18513-320 | Method: | Northing: 3978.34 Easting: 14863.78 |
| Client: Exelon Nuclear | Bit Type: 8" & 6" Air Hammer | Ground Elevation (ft. msl): 516.32 |
| Contractor: TSC | Boring Diameter: | Total Depth (ft. bgs): 137.00 |
| Start Date: 03/07/2005 | Backfill: Bentonite Chips | Logged By: Torrey Morris/Randy Mackay |
| Finish Date: 03/14/2005 | Completion: | Checked by: |
| Sample Method: | Depth to Groundwater: | |

| Sample | | | | Graphic | Depth (ft. bgs) | Soil and Rock Description Classification Scheme: USCS/ASTM | Elevation (ft. msl) | Drilling Progress | Comments |
|------------------|---------------------------------|--------------|---------------------|---------|--------------------|--|------------------------|----------------------|----------|
| Type & Number | Back- ground PID (ppm) | PID (ppm) | Sampled Interval | | | | | | |
| | | | | | 0 | FILL: Fill | 515 | | |
| | | | | | 5 | | 510 | | |
| | | | | | 10 | CLAY: Sandy Lean Clay, soft, very moist, yellowish brown (10YR 5/4). | 505 | | |
| | | | | | 15 | LIMESTONE: Limestone, light blueish gray (Gley 2 7/1), with white (Gley 1 8/1) speckles, texture is microcrystalline to fine grained, conformable, dry, small Shale lenses throughout dark blueish gray (Gley 2 4/1) to pale green (Gley 1 6/2), fractured, pyrite stringers | 500 | | |
| | | | | | 20 | | 495 | | |
| | | | | | 25 | | 490 | | |
| | | | | | 30 | | 485 | | |
| | | | | | 35 | | 480 | | |
| | | | | | 40 | | 475 | | |

Remarks and Datum Used:

The RETEC Group, Inc.
8605 W. Bryn Mawr Ave, Ste. 301
Chicago, IL 60631
Phone: (773) 714-8900
Fax: (773) 714-9805

Sample Type


SS = Soil Sample



Boring Log

Boring #: DSP-159D

Sheet 2 of 3

| Sample | | | | Graphic | Depth (ft. bgs) | Soil and Rock Description Classification Scheme: USCS/ASTM | Elevation (ft. msl) | Drilling Progress | Comments |
|------------------|---------------------------------|--------------|---------------------|--|--------------------|--|------------------------|----------------------|----------|
| Type & Number | Back- ground PID (ppm) | PID (ppm) | Sampled Interval | | | | | | |
| | | | |  | 45 | | 470 | | |
| | | | | | 50 | | 465 | | |
| | | | | | 55 | | 460 | | |
| | | | | | 60 | SHALE: Shale, hard moist to very moist, gray (Gley 1 10Y 5/1) to very dark greenish gray (Gley 1 3/1) when wet, slightly fractured to fractured, conformable, strong, microcrystalline, uniform, fresh, competent, shear, undulating to planar, clean, pyrite nodules. | 455 | | |
| | | | | | 65 | | 450 | | |
| | | | | | 70 | | 445 | | |
| | | | | | 75 | | 440 | | |
| | | | | | 80 | | 435 | | |
| | | | | | 85 | | 430 | | |
| | | | | | 90 | | 425 | | |

| | | | | |
|---|--|--|--|---------------------------------|
| Remarks and Datum Used: | | | | Sample Type SS = Soil Sample |
| The RETEC Group, Inc. 8605 W. Bryn Mawr Ave, Ste. 301 Chicago, IL 60631 Phone: (773) 714-9900 Fax: (773) 714-9805 | | | | |



Boring Log

Boring #: DSP-159D

Sheet 3 of 3

| Sample | | | | Graphic | Depth (ft. bgs) | Soil and Rock Description Classification Scheme: USCS/ASTM | Elevation (ft. msl) | Drilling Progress | Comments |
|------------------|---------------------------------|--------------|---------------------|---------|--------------------|---|------------------------|----------------------|----------|
| Type & Number | Back- ground PID (ppm) | PID (ppm) | Sampled Interval | | | | | | |
| | | | | | 95 | | 420 | | |
| | | | | | 100 | | 415 | | |
| | | | | | 105 | | 410 | | |
| | | | | | 110 | | 405 | | |
| | | | | | 115 | | 400 | | |
| | | | | | 120 | | 395 | | |
| | | | | | 125 | DOLOMITE: Dolomite, very strong, very light gray and light gray (mottled), microcrystalline, vuggy, some subhorizontal fractures, (~ 1 foot intervals), vertical fracturing from 132-135.5 feet and 137-138 feet. | 390 | | |
| | | | | | 130 | | 385 | | |
| | | | | | 135 | | 380 | | |
| | | | | | | | | | |

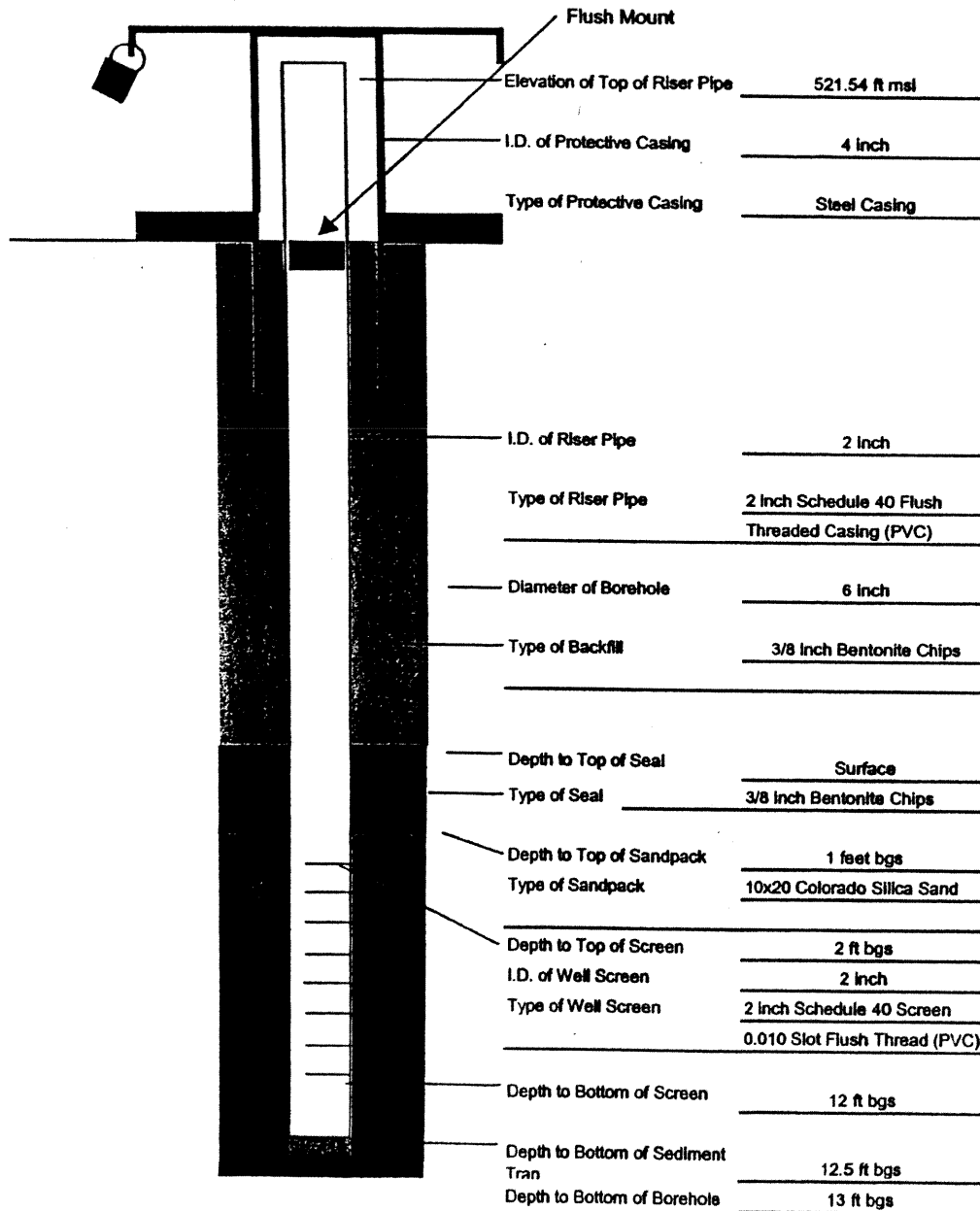
Remarks and Datum Used:

The RETEC Group, Inc.
8805 W. Bryn Mawr Ave, Ste. 301
Chicago, IL 60631
Phone: (773) 714-9800
Fax: (773) 714-9805

Sample Type

SS = Soil Sample

| | | | |
|----------------------|-----------------------------------|---------------------|----------|
| Project Name | HydroGeologic Assesment | Monitoring Well No. | DSP-157S |
| Project Number | EXENW-18512-312 | | |
| Date of Installation | February 25, 2005 | | |
| Drilling Company | Testing Service Corporation (TSC) | | |
| Field Engineer | Torrey Morris | | |

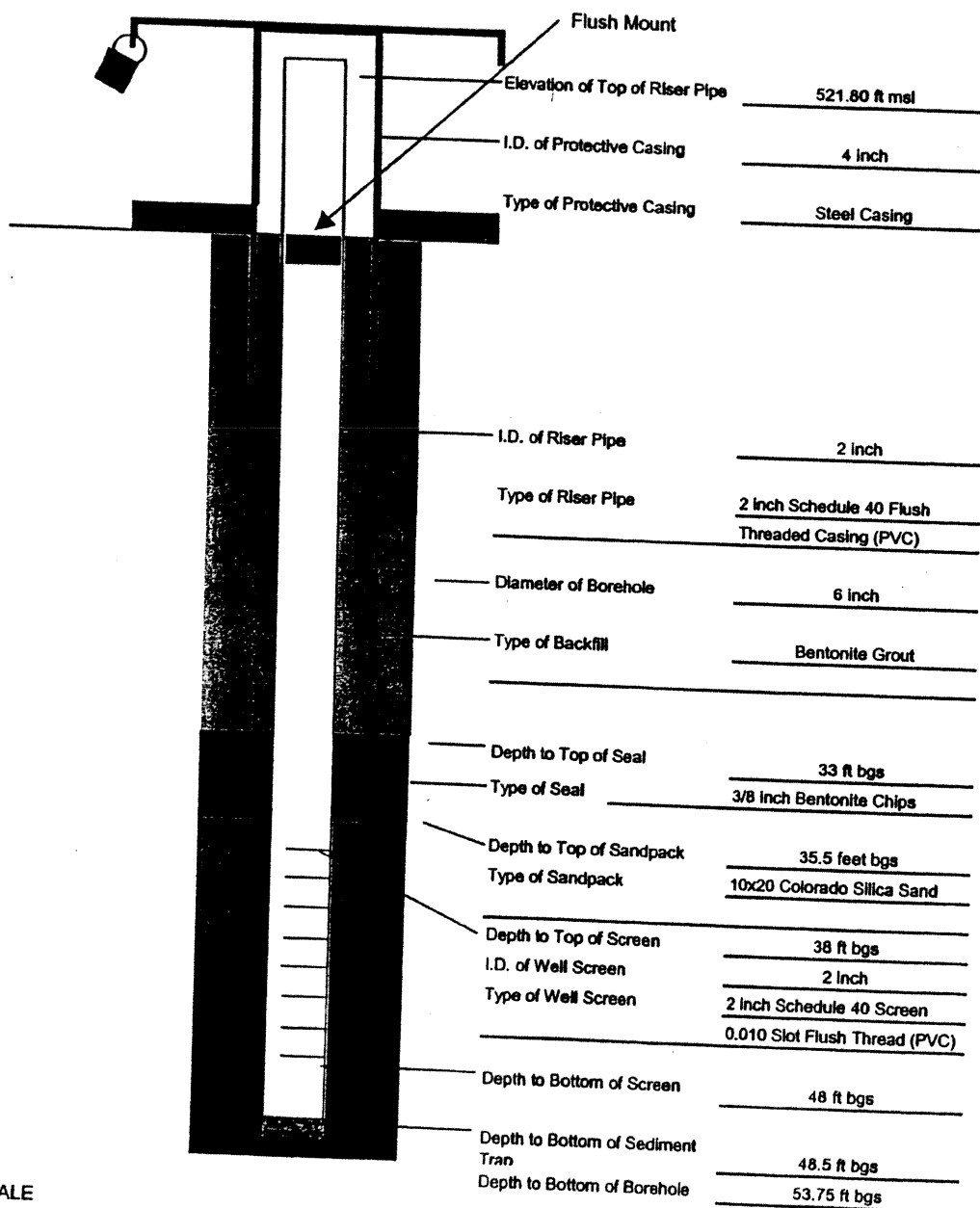


NOT TO SCALE



Project Name HydroGeologic Assessment
Project Number EXENW-18512-312
Date of Installation February 21, 2005
Drilling Company Testing Service Corporation (TSC)
Field Engineer Torrey Morris

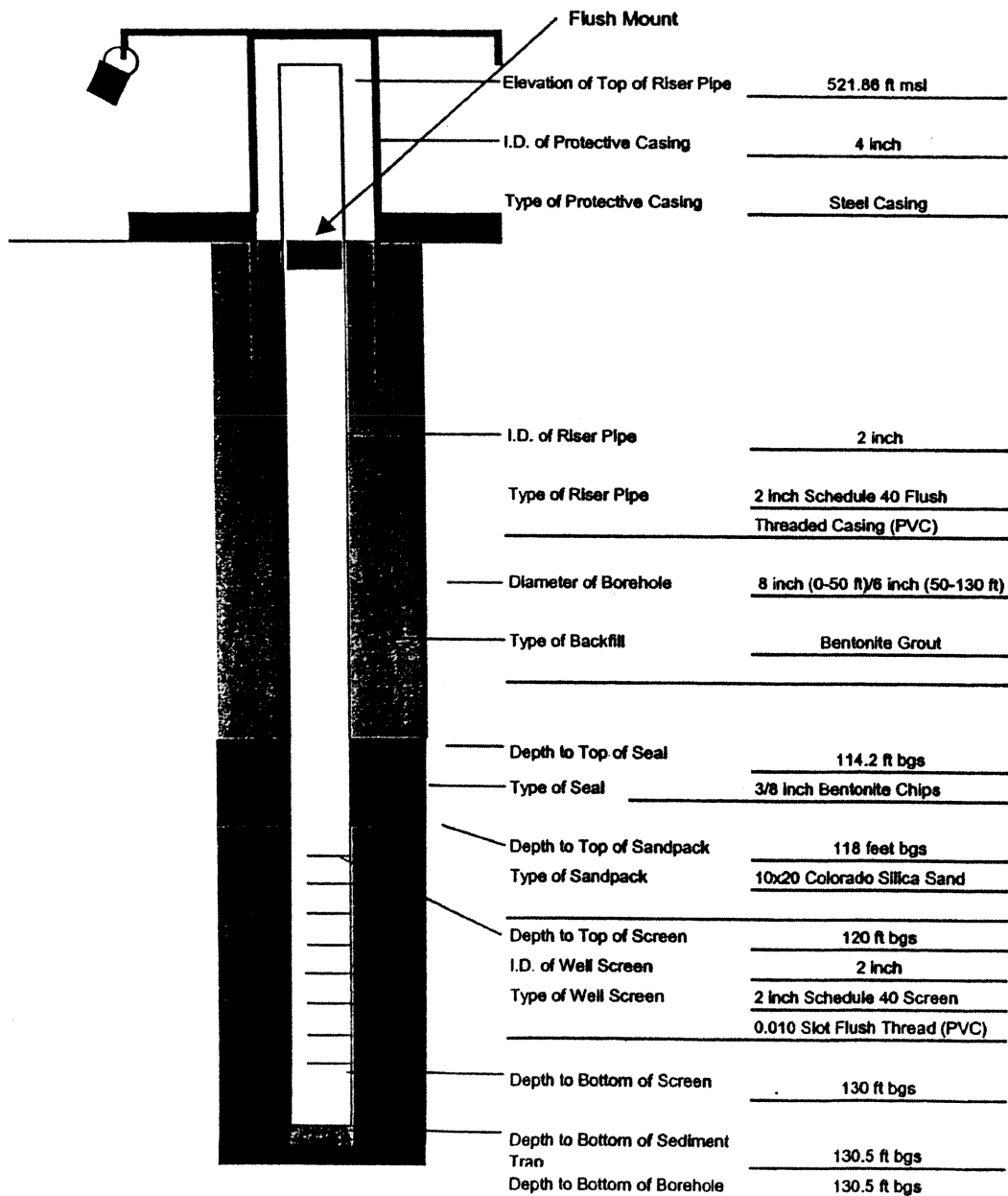
Monitoring Well No. DSP-157M



NOT TO SCALE

Project Name HydroGeologic Assesment
 Project Number EXENW-18512-312
 Date of Installation February 25, 2005
 Drilling Company Testing Service Corporation (TSC)
 Field Engineer Torrey Morris

Monitoring Well No. DSP-157D



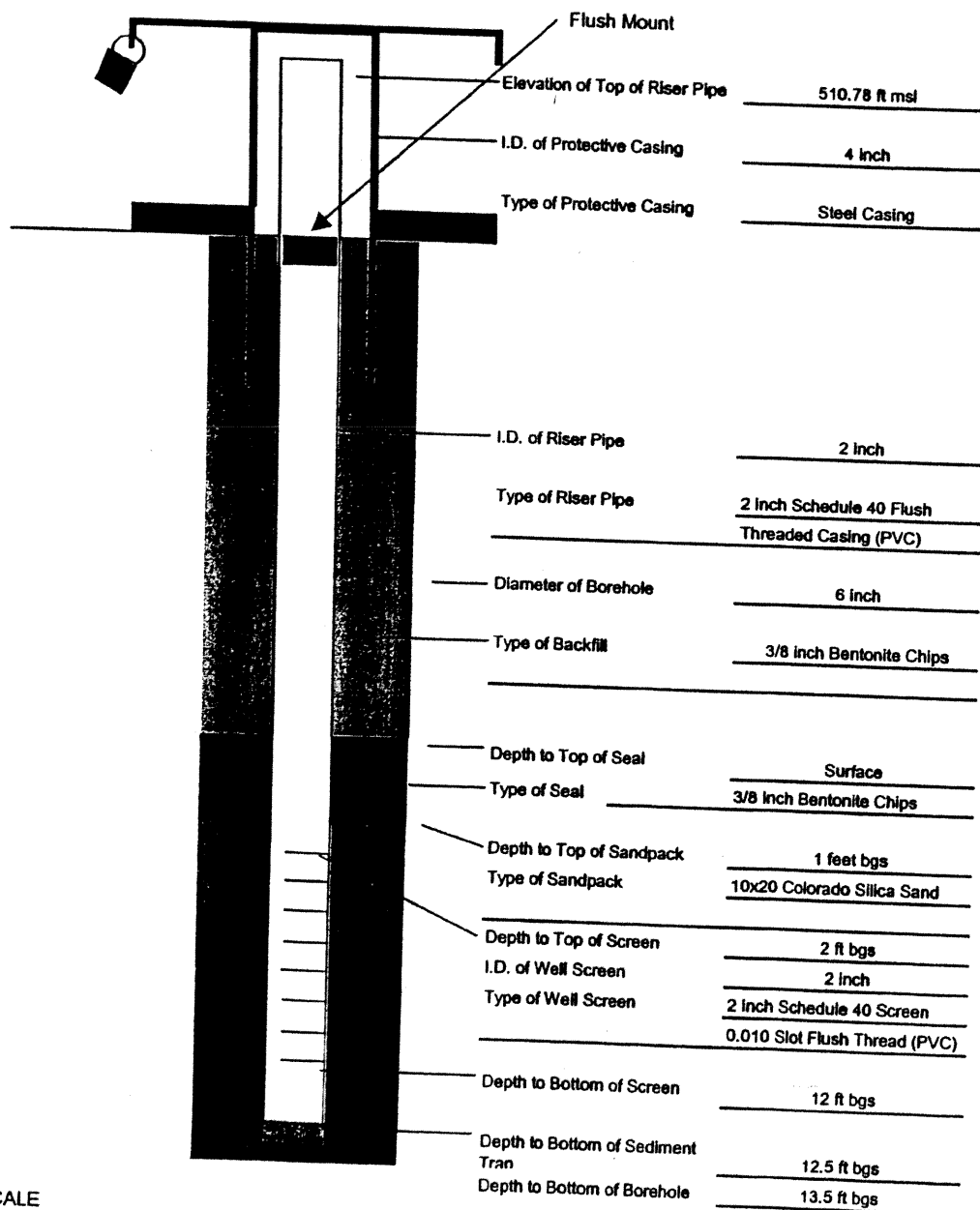
NOT TO SCALE

Remarks: To confine the lower aquifer from the upper aquifer during drilling, a 6 inch ID steel casing was placed down hole from 0 to 50 feet bgs (top of shale layer), then the outside was sealed with bentonite grout.



Project Name HydroGeologic Assesment
 Project Number EXENW-18512-312
 Date of Installation March 4, 2005
 Drilling Company Testing Service Corporation (TSC)
 Field Engineer Torrey Morris

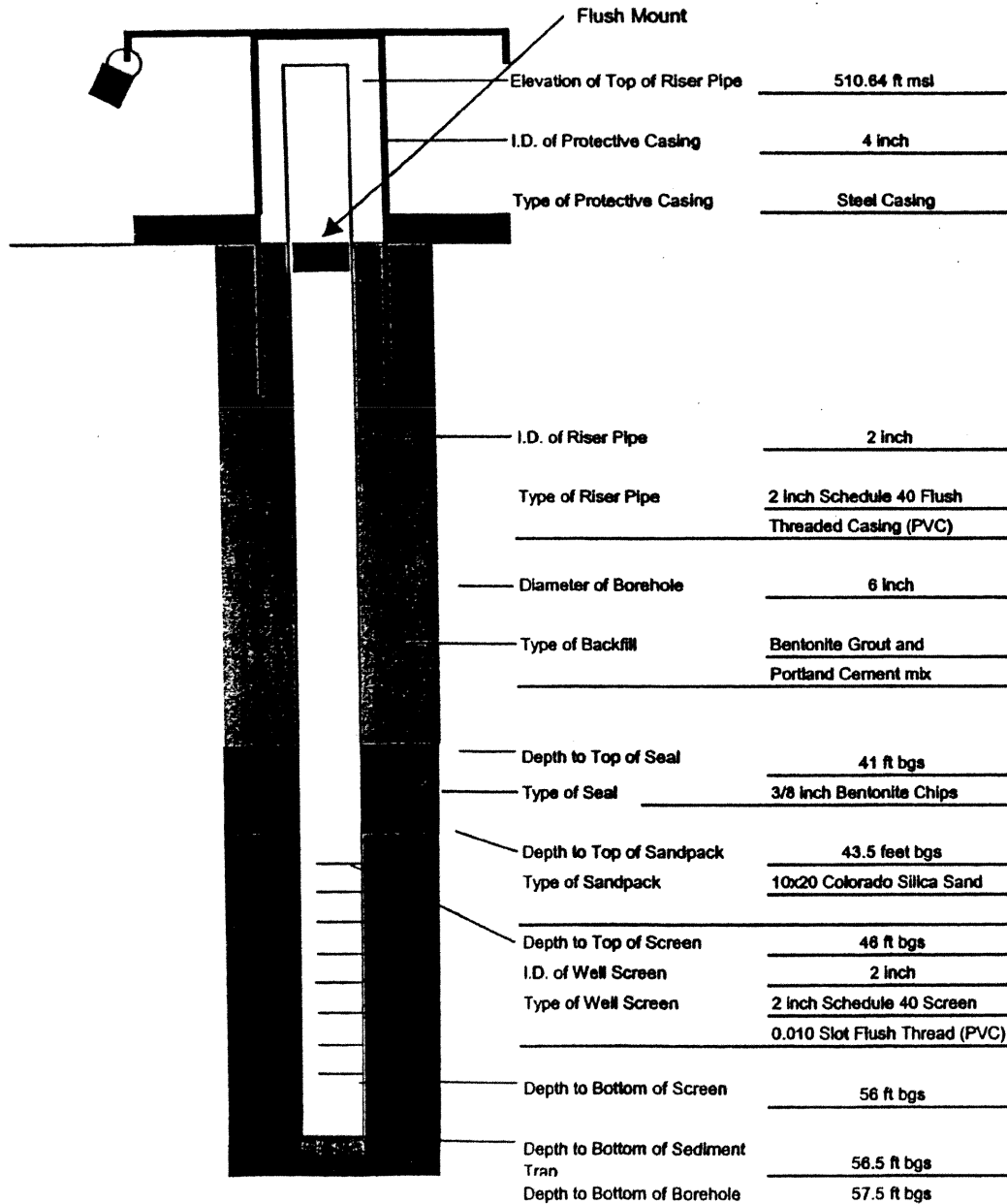
Monitoring Well No. DSP-158S



NOT TO SCALE

Project Name HydroGeologic Assessment
 Project Number EXENW-18512-312
 Date of Installation March 2, 2005
 Drilling Company Testing Service Corporation (TSC)
 Field Engineer Torrey Morris

Monitoring Well No. DSP-158M

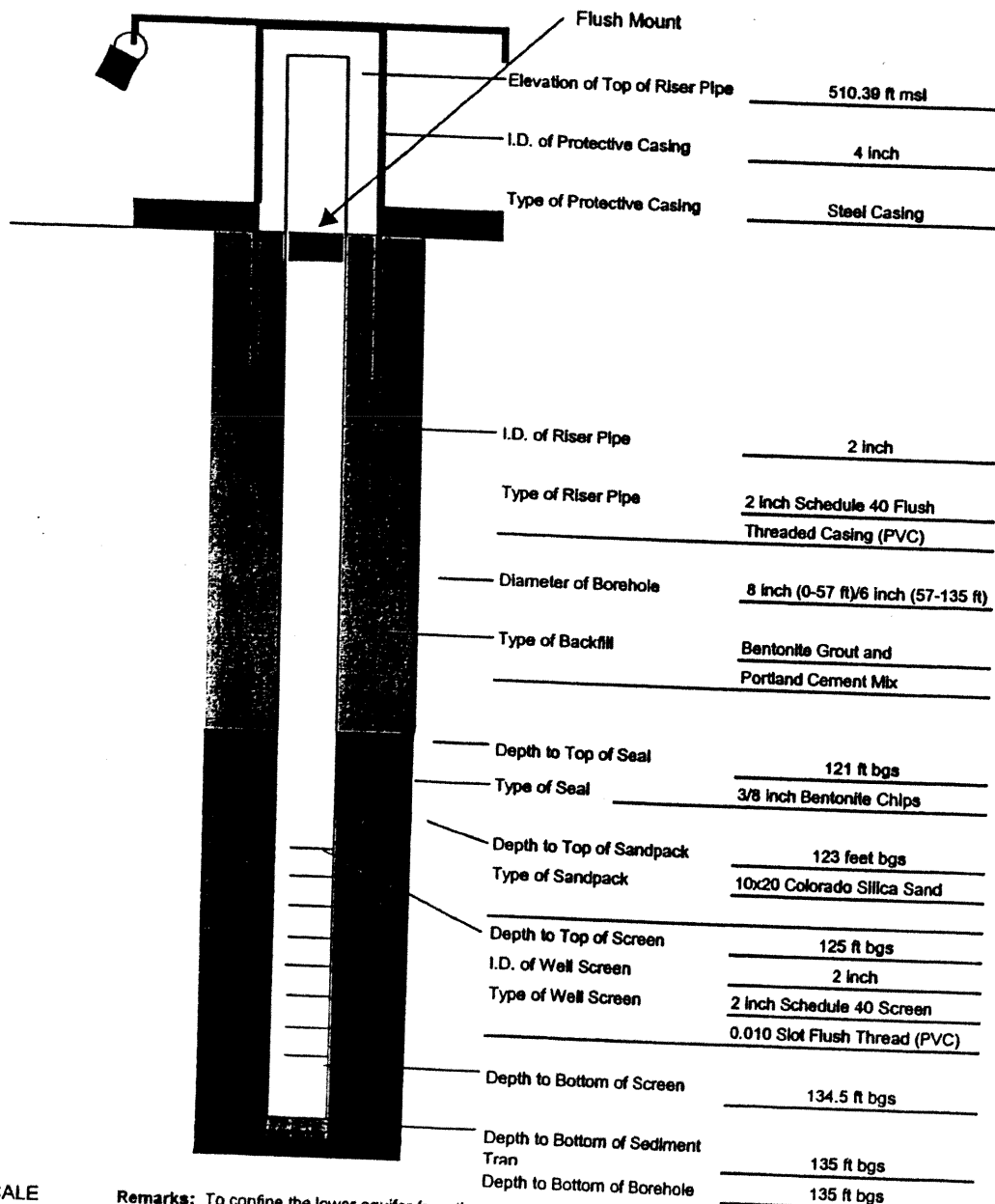


NOT TO SCALE



Project Name HydroGeologic Assesment
Project Number EXENW-18512-312
Date of Installation March 3, 2005
Drilling Company Testing Service Corporation (TSC)
Field Engineer Torrey Morris

Monitoring Well No. DSP-158D

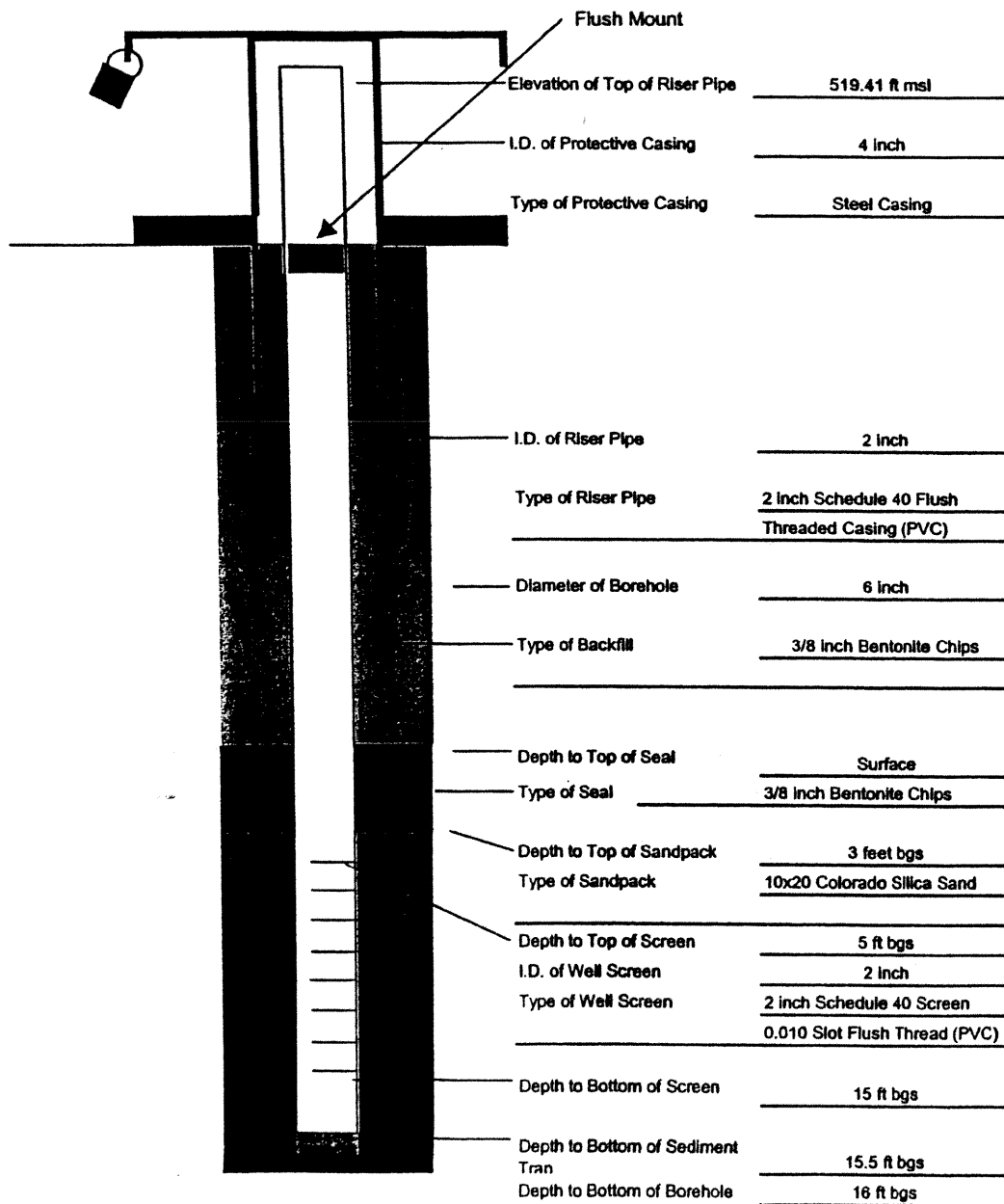


NOT TO SCALE

Remarks: To confine the lower aquifer from the upper aquifer during drilling, a 6 inch ID steel casing was placed down hole from 0 to 57 feet bgs (top of shale layer), then the outside was sealed with bentonite quickgel and portland cement mix..



| | | | |
|----------------------|-----------------------------------|---------------------|----------|
| Project Name | HydroGeologic Assesment | Monitoring Well No. | DSP-159S |
| Project Number | EXENW-18512-312 | | |
| Date of Installation | March 7, 2005 | | |
| Drilling Company | Testing Service Corporation (TSC) | | |
| Field Engineer | Torrey Morris | | |

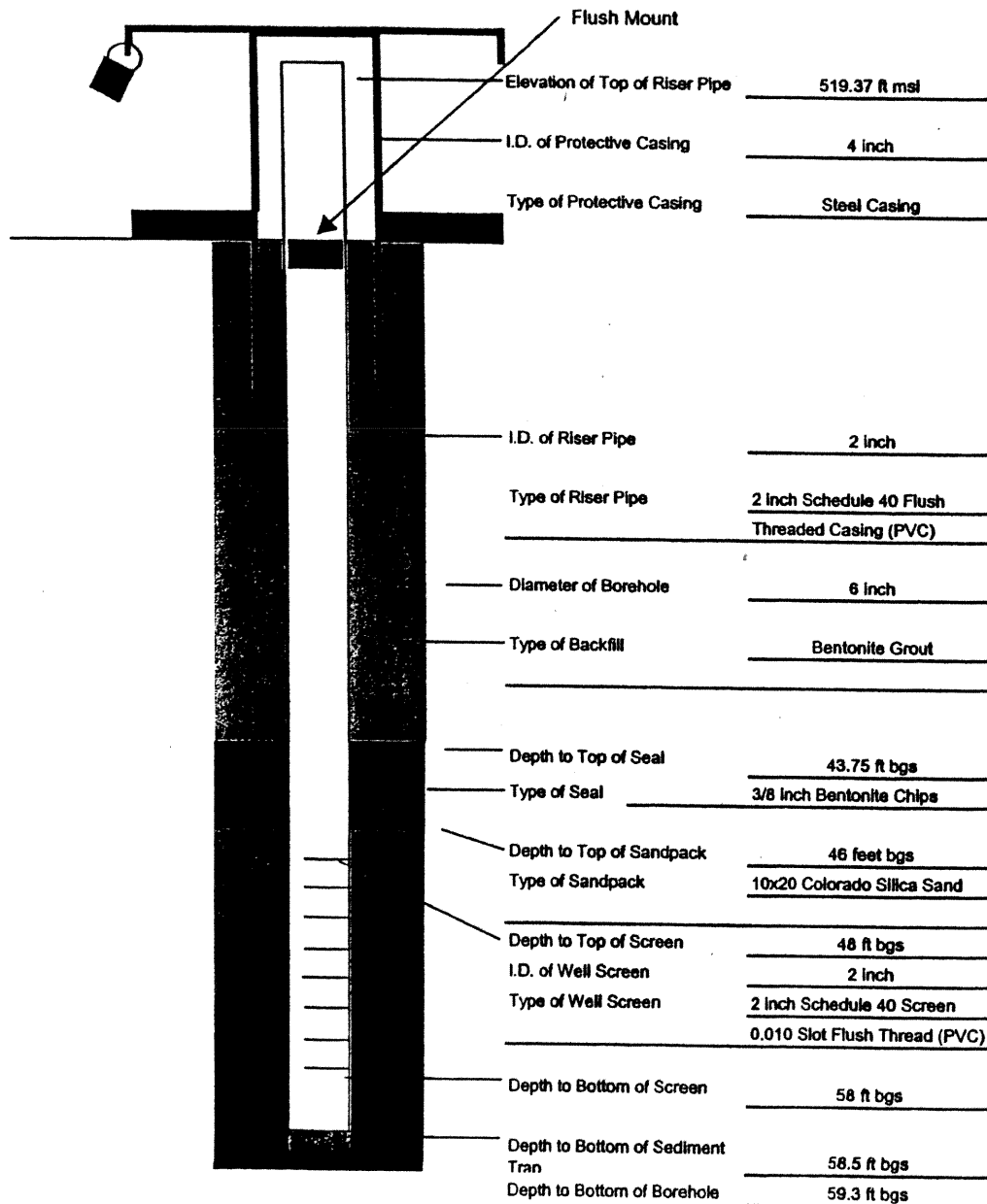


NOT TO SCALE



Project Name HydroGeologic Assesment
Project Number EXENW-18512-312
Date of Installation March 11, 2005
Drilling Company Testing Service Corporation (TSC)
Field Engineer Torrey Morris

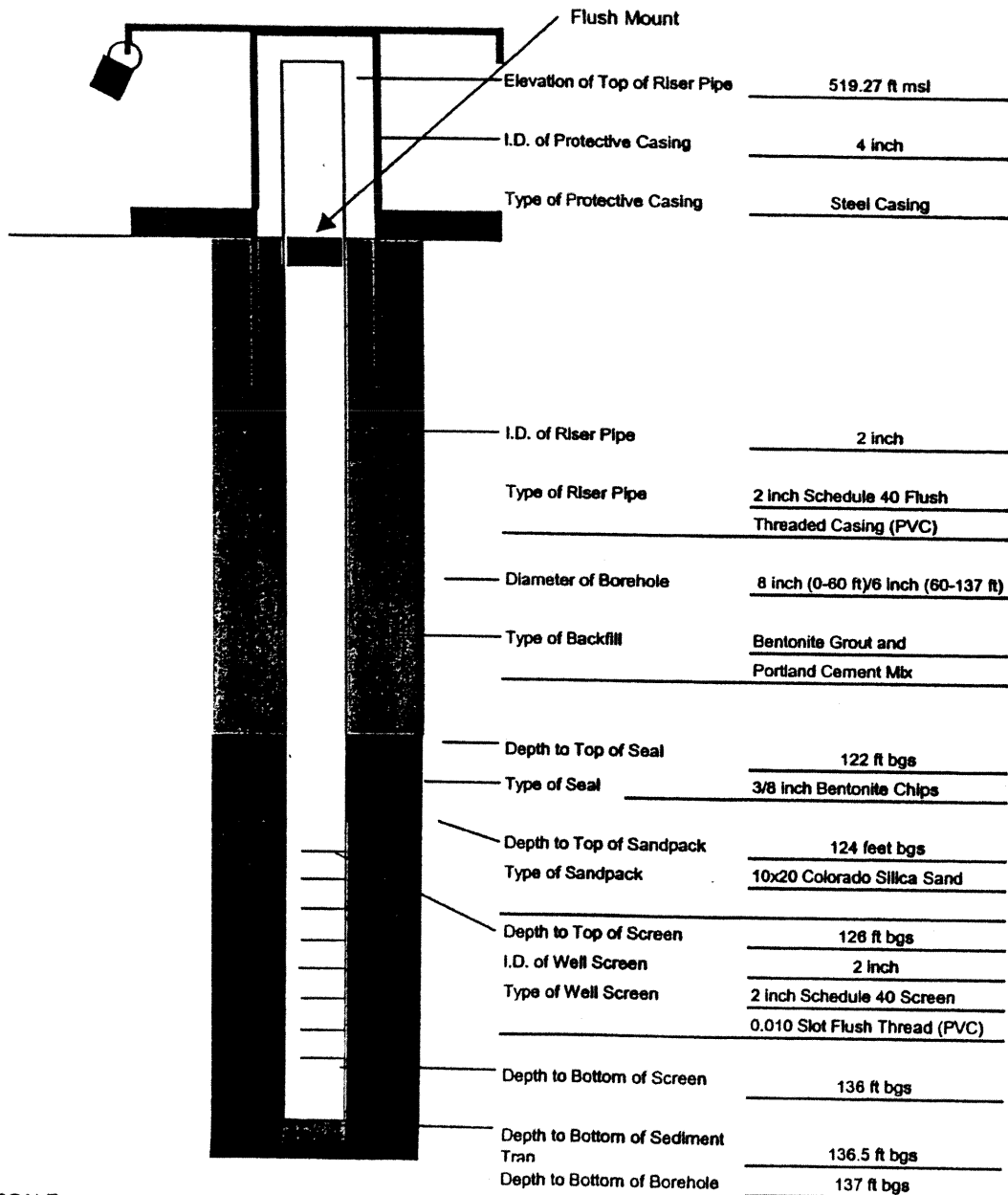
Monitoring Well No. DSP-159M



NOT TO SCALE

Project Name HydroGeologic Assesment
 Project Number EXENW-18512-312
 Date of Installation March 14, 2005
 Drilling Company Testing Service Corporation (TSC)
 Field Engineer Torrey Morris

Monitoring Well No. DSP-159D



NOT TO SCALE

Remarks: To confine the lower aquifer from the upper aquifer during drilling, a 6 inch ID steel casing was placed down hole from 0 to 60 feet bgs (top of shale layer), then the outside was sealed with a bentonite grout and portland cement mix.

APPENDIX B

WATER SUPPLY WELL INVENTORY

TABLE B.1

**SUMMARY OF PRIVATE/PUBLIC WATER WELLS
FLEETWIDE ASSESSMENT
DRESDEN GENERATING STATION
MORRIS, ILLINOIS**

| <i>County</i> <i>Well ID</i> | <i>Well Owner</i> | <i>Address</i> | <i>Approximate Distance From the Site (ft)</i> | <i>Direction</i> | <i>Well Depth (ft bgs)</i> | <i>Gradient</i> | <i>Source of Information</i> | <i>Comments</i> |
|---------------------------------|-------------------------------|----------------|--|------------------|--------------------------------|-----------------|----------------------------------|-----------------------------------|
| Grundy 908 | Dresden Nuclear Power Station | On-Site | - | - | 1499 | | 2 | |
| Grundy 1154 | Walter Brown | N/A | 5100 | South | 275 | | 1 | |
| Grundy 1336 | B.C. Nickolson | N/A | 1000 | South | 90 | | 2 | |
| Grundy 1337 | Lewis Lyons | N/A | 1000 | East | 203 | | 2 | |
| Grundy 1509 | G E Simulator | N/A | 300 | South | 383 | | 2 | |
| Grundy 1519 | General Electric Co | N/A | 1100 | West | 788 | | 2 | |
| Grundy 1525 | Reichhold Chem Inc | N/A | 900 | South | 706 | | 2 | |
| Grundy 1769 | Wm Osbourne | N/A | 2800 | West | 94 | | 2 | |
| Grundy 1770 | Wm Osbourne | N/A | 1000 | West | 113 | | 2 | |
| Grundy 1777 | Il Clay Products | N/A | 5000 | West | 105 | | 2 | |
| Grundy 1782 | Martin Underwood | N/A | 400 | West | 157 | | 2 | |
| Grundy 1784 | George Trotter | N/A | 500 | South | 190 | | 1 | |
| Grundy 1788 | Goose Lake Sch. | On-Site | - | - | 95 | | 1 | Inundated by Dresden cooling lake |
| Grundy 1999 | A J Craymer | On-Site | - | - | 197 | | 2 | |
| Grundy 2000 | State of Illinois | On-Site | - | - | 203 | | 2 | |
| Grundy 2001 | W L Wainwright | On-Site | - | - | 190 | | 2 | |
| Grundy 2010 | F Collins | On-Site | - | - | 188 | | 2 | |

TABLE B.1

**SUMMARY OF PRIVATE/PUBLIC WATER WELLS
FLEETWIDE ASSESSMENT
DRESDEN GENERATING STATION
MORRIS, ILLINOIS**

| <i>County Well ID</i> | <i>Well Owner</i> | <i>Address</i> | <i>Approximate Distance From the Site (ft)</i> | <i>Direction</i> | <i>Well Depth (ft bgs)</i> | <i>Gradient</i> | <i>Source of Information</i> | <i>Comments</i> |
|---------------------------|------------------------|--------------------------------|--|------------------|--------------------------------|-----------------|----------------------------------|-----------------|
| Grundy 2011 | Frank Collins | N/A | 1000 | South | 240 | | 2 | |
| Grundy 2012 | O E Collins | N/A | 1000 | West | 237 | | 2 | |
| Grundy 2013 | O E Collins | N/A | 2000 | West | 164 | | 2 | |
| Grundy 2014 | S Melbourne | On-Site | - | - | 204 | | 2 | |
| Grundy 2019 | Collins | N/A | 500 | South | 200 | | 2 | |
| Grundy 2020 | C Osbourne | N/A | 300 | South | 200 | | 2 | |
| Grundy 2021 | C Osbourne | N/A | 500 | South | 146 | | 2 | |
| Grundy 2022 | S & W Osbourne | N/A | 300 | South | 267 | | 2 | |
| Grundy 2024 | W L Wainwright | On-Site | - | - | 114 | | 2 | |
| Grundy 22367 | Reichhold Inc | N/A | 1500 | West | 710 | | 2 | |
| Grundy 22428 | Manny Tulumaris | On-Site | - | - | 200 | | 2 | |
| Grundy 22583 | Tri-County Well & Pump | On-Site | - | - | 38 | | 2 | |
| Grundy 22585 | John Horvat | Lorenzo Rd., Wilmington, IL | 300 | West | 265 | | 1 | |
| Grundy 22793 | Eugene Chamberlain | On-Site | 2800 | West | 50 | | 2 | |
| Grundy 22795 | Gery Brieser | N/A | 1500 | East | 145 | | | |
| Grundy 22796 | Gery Brieser | N/A | 1500 | East | 100 | | | |
| Grundy 22804 | Veronica Schmitz | N/A | 300 | East | 245 | | 2 | |

TABLE B.1

**SUMMARY OF PRIVATE/PUBLIC WATER WELLS
FLEETWIDE ASSESSMENT
DRESDEN GENERATING STATION
MORRIS, ILLINOIS**

| <i>County</i> <i>Well ID</i> | <i>Well Owner</i> | <i>Address</i> | <i>Approximate Distance From the Site (ft)</i> | <i>Direction</i> | <i>Well Depth (ft bgs)</i> | <i>Gradient</i> | <i>Source of Information</i> | <i>Comments</i> |
|---------------------------------|-----------------------------|---------------------------------------|--|------------------|--------------------------------|-----------------|----------------------------------|-----------------|
| Grundy 22928 | Don Bedford | County Line Rd., Coal City, IL | 4500 | South | 125 | | 1 | |
| Grundy 22948 | Doug Randolph | N/A | 1800 | East | 165 | | 2 | |
| Grundy 23159 | National Concrete Unit | On-Site | - | - | 300 | | 2 | |
| Grundy 23313 | Rich Massey | N/A | 1200 | East | 290 | | 2 | |
| Grundy 23493 | Schmitt, Frank & Claudette | N/A | 100 | West | 82 | | 2 | |
| Grundy 23526 | James McCormick | 5150 N. Dresden Rd., Morris, IL | 700 | West | 385 | | 1 | |
| Grundy 23548 | Bill Scwantes | 3830 N. Dresden Rd., Coal City, IL | 1000 | South | 220 | | 1 | |
| Grundy 23550 | Ronald Bettenhauser | N/A | 1200 | West | 290 | | 2 | |
| Grundy 23556 | Dresden Nuclear Power Plant | N/A | 900 | West | 460 | | 2 | |
| Grundy 23603 | Kenneth Shetina | 3870 N. Dresden Rd., Coal City, IL | 700 | South | 167 | | 1 | |
| Grundy 23663 | Larry Price | 4530 N. Dresden Rd., Morris, IL | 500 | West | 77 | | 1 | |
| Grundy 23768 | Dave Grohne | Pine Bluff Rd., Morris IL | 3000 | West | 700 | | 1 | |
| Grundy 23769 | Jeffery Berry | 3780 N. Dresden Rd., Coal City, IL | 1100 | South | 287 | | 1 | |
| Grundy 23861 | Ray Kemmerling | N/A | 1400 | West | 300 | | 2 | |
| Grundy 23974 | Tim English | 4800 N. Dresden Rd., Morris IL | 200 | West | 280 | | 1 | |
| Grundy 24054 | Kevin Greco | 3920 Coneflower Dr., Coal City, IL | 500 | South | 400 | | 1 | |
| Grundy 24244 | Glen Jackson | 3925 Clover Lane, Coal City, IL | 200 | South | 78 | | 1 | |

TABLE B.1

**SUMMARY OF PRIVATE/PUBLIC WATER WELLS
FLEETWIDE ASSESSMENT
DRESDEN GENERATING STATION
MORRIS, ILLINOIS**

| <i>County</i> <i>Well ID</i> | <i>Well Owner</i> | <i>Address</i> | <i>Approximate Distance From the Site (ft)</i> | <i>Direction</i> | <i>Well Depth (ft bgs)</i> | <i>Gradient</i> | <i>Source of Information</i> | <i>Comments</i> |
|---------------------------------|--------------------------------|---------------------------------------|--|------------------|--------------------------------|-----------------|----------------------------------|-----------------|
| Grundy 24338 | Carl Miller | 8925 Clover Lane, Coal City, IL | 4700 | South | 600 | | 1 | |
| Grundy 24381 | Larry & Tammy Marino | N/A | 500 | South | 205 | | 2 | |
| Grundy 24430 | Greg Hill | 7755 E. Pine Bluff Rd., Morris, IL | 1800 | West | 280 | | 1 | |
| Grundy 24461 | Jim Fergelec | N/A | 400 | West | 320 | | 2 | |
| Will 672 | Jay O'Brien | On-Site | - | - | 130 | | 1 | Inundated |
| Will 695 | E. Marvin | N/A | 1000 | Southeast | 125 | | 1 | |
| Will 696 | Bardwell, Jr. | N/A | 200 | South | 95 | | 1 | |
| Will 1209 | Des Plaines Game Farm | N/A | 13400 | Southeast | 810 | | 1 | |
| Will 1669 | Lorenzo Store | N/A | 300 | South | 95 | | 1 | |
| Will 24931 | Illinois Dept. of Conservation | N/A | 2800 | North | 775 | | 1 | |
| Will 25594 | Illinois Dept. Of Conservation | N/A | 2700 | Northeast | 260 | | 1 | |
| Will 27909 | Tony Grate | 26025 Sunfish Ln., Wilmington, IL | 2300 | East | 505 | | 1 | |
| Will 27922 | James Kavdak | N/A | 6800 | East | 175 | | 1 | |
| Will 27923 | James Lapaso | N/A | 7500 | Southeast | 105 | | 1 | |
| Will 28332 | Lorraine Roak | N/A | 200 | North | 380 | | 1 | |
| Will 28332 | Robert Hibler | N/A | 200 | North | 380 | | 1 | |
| Will 28375 | Robert Patterson | N/A | 200 | North | 305 | | 1 | |

TABLE B.1

**SUMMARY OF PRIVATE/PUBLIC WATER WELLS
FLEETWIDE ASSESSMENT
DRESDEN GENERATING STATION
MORRIS, ILLINOIS**

| <i>County</i> <i>Well ID</i> | <i>Well Owner</i> | <i>Address</i> | <i>Approximate Distance From the Site (ft)</i> | <i>Direction</i> | <i>Well Depth (ft bgs)</i> | <i>Gradient</i> | <i>Source of Information</i> | <i>Comments</i> |
|---------------------------------|--------------------|--|--|------------------|--------------------------------|-----------------|----------------------------------|-----------------|
| Will 28396 | Robert Patterson | N/A | 10000 | Southeast | 213 | | 1 | |
| Will 28445 | Joe Debretto | N/A | 10700 | Southeast | 620 | | 1 | |
| Will 28844 | Florence Spencer | N/A | 11200 | Southeast | 565 | | 1 | |
| Will 29116 | Joan Buck | 24616 Lorenzo Rd., Wilmington, IL | 1400 | East | 180 | | 1 | |
| Will 30362 | Sievers | Cottage Rd., Wilmington, IL | 300 | North | 645 | | 1 | |
| Will 31229 | Colo Fornelli | N/A | 400 | South | 340 | | 1 | |
| Will 31230 | Tony Jadron | N/A | 8600 | Southeast | 110 | | 1 | |
| Will 34472 | Rick Stevens | 26030 Willow Ln., Wilmington, IL | 2500 | Northeast | 300 | | 1 | |
| Will 34899 | Catherine Cualdoni | 26062 Muskie Ln., Wilmington, IL | 2300 | East | 74 | | 1 | |
| Will 35954 | Gary Grskovic | 25618 Cottage Rd., Wilmington, IL | 200 | North | 545 | | 1 | |
| Will 36613 | House Of Radiators | 28308 Fir Ln., Wilmington, IL | 2400 | Northeast | 100 | | 1 | |
| Will 36689 | Charles Novak | 25336 Cottage Rd., Wilmington, IL | 200 | North | 445 | | 1 | |
| Will 36795 | Pat Bradley | 26018 Willow Ln., Wilmington, IL | 2600 | Northeast | 165 | | 1 | |
| Will 36875 | Robert Tadej | N/A | 300 | South | 98 | | 1 | |
| Will 37132 | Ron Hamilton | 30478 W. Frontage Rd., Wilmington, IL | 9200 | Southeast | 156 | | 1 | |
| Will 37160 | Leonard Rittoff | 26056 Marlin Ct., Wilmington, IL | 2000 | Northeast | 420 | | 1 | |
| Will 37497 | Richard Relter | 25042 Cottage Rd., Wilmington, IL | 200 | North | 180 | | 1 | |

TABLE B.1

**SUMMARY OF PRIVATE/PUBLIC WATER WELLS
FLEETWIDE ASSESSMENT
DRESDEN GENERATING STATION
MORRIS, ILLINOIS**

| <i>County</i> <i>Well ID</i> | <i>Well Owner</i> | <i>Address</i> | <i>Approximate Distance From the Site (ft)</i> | <i>Direction</i> | <i>Well Depth (ft bgs)</i> | <i>Gradient</i> | <i>Source of Information</i> | <i>Comments</i> |
|---------------------------------|-------------------|---|--|------------------|--------------------------------|-----------------|----------------------------------|-----------------|
| Will 37529 | James Giertuga | 25255 W. Lorenzo Rd., Wilmington, IL | 500 | South | 580 | | 1 | |
| Will 37939 | Loyce Cambruzzi | 26065 Muskie Ln., Wilmington, IL | 2300 | East | 340 | | 1 | |
| Will 38148 | Judy Kavanaugh | 30757 S. Kavanaugh Rd., Wilmington, IL | 9000 | Southeast | 600 | | 1 | |
| Will 38149 | Alan Onderisin | 30265 S. Kavanaugh Rd., Wilmington, IL | 5800 | South | 600 | | 1 | |
| Will 38213 | Don Kapinus | 26040 Muskie Ln., Wilmington, IL | 2300 | East | 300 | | 1 | |
| Will 28238 | Tri-County Well | N/A | 200 | South | 420 | | 1 | |
| Will 38376 | William Hoffman | 25960 Cottage Rd., Wilmington, IL | 200 | North | 110 | | 1 | |
| Will 38443 | Ray Dolasin | S. Kavanaugh Rd., Wilmington, IL | 10700 | Southeast | 600 | | 1 | |
| Will 38718 | Michael Mathy | S. Kavanaugh Rd., Wilmington, IL | 10400 | Southeast | 520 | | 1 | |
| Will 38785 | Joe Nasadowski | 31019 S. Kavanaugh, Wilmington, IL | 10500 | Southeast | 625 | | 1 | |
| Will 38910 | Joyce Hinz | Readman Ln., Wilmington, IL | 9500 | Southeast | 605 | | 1 | |
| Will 38915 | Ronald Williams | 29709 S.Cooper Rd., Wilmington, IL | 100 | South | 312 | | 1 | |
| Will 39297 | David Landmichl | S. Kavanaugh Rd., Wilmington, IL | 10200 | Southeast | 600 | | 1 | |
| Will 39433 | Louise O'Conner | 30631 Readman Ln., Wilmington, IL | 10600 | Southeast | 200 | | 1 | |
| Will 40232 | Jessie Overton | 29761 S. Cooper Rd., Wilmington, IL | 1500 | South | 320 | | 1 | |
| Will 40428 | Michael Koziowski | 26357 Willow Ln., Wilmington, IL | 1400 | Northeast | 360 | | 1 | |
| Will 40430 | Emmett Mckeller | N/A | 8600 | Southeast | 645 | | 1 | |

TABLE B.1

**SUMMARY OF PRIVATE/PUBLIC WATER WELLS
FLEETWIDE ASSESSMENT
DRESDEN GENERATING STATION
MORRIS, ILLINOIS**

| <i>County Well ID</i> | <i>Well Owner</i> | <i>Address</i> | <i>Approximate Distance From the Site (ft)</i> | <i>Direction</i> | <i>Well Depth (ft bgs)</i> | <i>Gradient</i> | <i>Source of Information</i> | <i>Comments</i> |
|---------------------------|-------------------|--------------------------------------|--|------------------|--------------------------------|-----------------|----------------------------------|-----------------|
| Will 40914 | Robert Cartwright | N/A | 10800 | Southeast | 620 | | 1 | |
| Will 40917 | William Ferguson | 25716 Cottage Rd., Wilmington, IL | 200 | North | 520 | | 1 | |
| Will 41189 | Charles Vedder | 25540 Cottage Rd., Wilmington, IL | 200 | North | 320 | | 1 | |
| Will 41399 | Ron Sorg | 24760 Cottage Rd., Wilmington, IL | 300 | Northeast | 600 | | 1 | |
| Will 41398 | Matthew Ramuta | 25806 Cottage Rd., Wilmington, IL | 200 | North | 425 | | 1 | |
| Will 41459 | Robert Johnson | 25132 Cottage Rd., Wilmington, IL | 200 | North | 180 | | 1 | |
| Will 41578 | Frank Garrone | 25148 Cottage Rd., Wilmington, IL | 200 | North | 165 | | 1 | |

Notes:

This listing is a summary of wells within approximately 2 miles of the Dresden nuclear generating station.

1 - Sundance Environmental and Energy Specialists Ltd., January 31, 2006

2 - Illinois State Geological Survey Online Well Data

N/A - Not available.

TOWN

COMPANY

FARM

AUTHORITY

ELEVATION

COLLECTOR

CONFIDENTIAL

2350' E and 1380' S of
NW cor. Sec. 11. On main ditch &
100' " of Osburn's ditch juncture. R. 9 E
Map No. 6

No. 2

T.

Sec.

DATE DRILLED

33
N

11



| No. | STRATA | Thickness | | Depth | |
|-----|--|-----------|-----|-------|-----|
| | | Feet | In. | Feet | In. |
| | Peat | 3 | 6 | 3 | 6 |
| | Clay, peaty, green | 3 | 6 | 7 | |
| | Trace of coal | | | 7 | |
| | Clay, dark gray, plastic | | 3 | 7 | 3 |
| | Coal, boney | | 2 | 7 | 5 |
| | Clay, light gray above, darker below, with con- choidal fracture | 3 | 10 | 11 | 3 |
| | Coal | 1 | 9 | 13 | |
| | Clay, dark gray | 1 | 6 | 14 | 6 |
| | Clay, sandy shale, varying in hardness and color | 5 | 11 | 20 | 5 |
| | Clay, as above but with traces of carbonaceous matter and thin sandy partings | 1 | 1 | 21 | 6 |
| | Hard sandy zone | | 3 | 21 | 9 |
| | Shale, dark to light gray with sandy zones of 1" to 6" | 11 | 5 | 33 | 2 |
| | Hard gray zone | | 11 | 34 | 1 |
| | Shale, dark to light gray with sandy zones 1" to 8" | 9 | 5 | 43 | 6 |
| | Shale, greenish gray, varying sandiness, small pyrites streaks near bottom | 8 | 6 | 52 | |

COUNTY No. 570

nty
GRUNDY
DRILL RECORD

Index No. 0611

11-33N-8E
(67739-3M-C-27)

ILLINOIS STATE GEOLOGICAL SURVEY

| Water Well | Top | Bottom |
|--------------------|-----|--------|
| soil | 0 | 3 |
| yellow clay | 3 | 19 |
| limestone-shale | 19 | 39 |
| shale | 39 | 110 |
| soapstone | 110 | 130 |
| Total Depth | | 130 |

Driller's Log filed

Permit Date:

Permit #: 0

COMPANY Smith T H

FARM Obrien Jay

DATE DRILLED January 1, 1948

NO.

ELEVATION 510GL

COUNTY NO. 00672

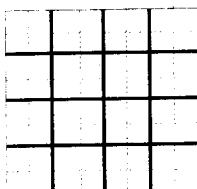
LOCATION 900'S line, 2640'E line of section

LATITUDE 41.349342

LONGITUDE - 88.238935

COUNTY Will

API 121970067200



7 - 33N - 9E

ILLINOIS STATE GEOLOGICAL SURVEY

| Water Well | Top | Bottom |
|--------------------------|-----|--------|
| soil | 0 | 2 |
| gravel | 2 | 15 |
| blue clay | 15 | 23 |
| limestone | 23 | 61 |
| shale | 61 | 95 |
| limestone | 95 | 125 |
| Total Depth | | 125 |
| Driller's Log filed | | |
| Permit Date: Permit #: 0 | | |

COMPANY Smith T H

FARM Mavin E

DATE DRILLED January 1, 1946

NO.

ELEVATION 0

COUNTY NO. 00695

LOCATION 300'N line, 300'E line of section

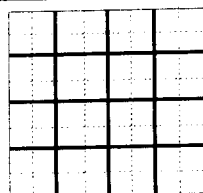
LATITUDE 41.346387

LONGITUDE - 88.211647

COUNTY Will

API 121970069500

17 - 33N - 9E



AN Lorenzo

TOWNSHIP Wilmington MAP No. 21

PANY

AM Bardwell, Jr.

HORITY T.F. Anderson

NATION 530'

LECTOR H.E.C.

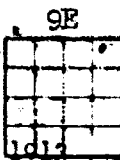
HOLE No.

DATE DRILLED

Jan. 15,

33

N



18

NW

NE

NE

| STRATA | Elev. | THICKNESS | | DEPTH | |
|-------------------------|-------|-----------|-----|-------|-----|
| | | FEET | IN. | FEET | IN. |
| Sand & hard pan | 503 | 27 | | 27 | |
| Shale, green | 498 | 5 | | 32 | |
| Shale | 485 | 13 | | 45 | |
| Shell rock, hard | 435 | 50 | | 95 | |
| Casing 48' of 7". | | | | | |
| COUNTY No. 696 | | | | | |
| 41 3+3+20 - 88 23 23 41 | | | | | |
| 1100 315 | | | | | |
| NO ENVELOPE | | | | | |

nty Will
DRILL RECORD

Index No. 2118

18-33N-9E



ILLINOIS STATE GEOLOGICAL SURVEY

| Water Well | Top | Bottom |
|---------------------------------|-------------|--------|
| Total Depth | | 1499 |
| Driller's Log filed | | |
| Survey Sample Study filed | | |
| Sample set # 30332 (0' - 785') | | |
| Sample set # 56258 (0' - 1500') | | |
| Permit Date: | Permit #: 0 | |

COMPANY Wehling Well Works Inc.

FARM Dresden Nuc Pow Sta

DATE DRILLED January 1, 1957

NO. 1

ELEVATION 510GL

COUNTY NO. 00908

LOCATION 690'N line, 240'E line of section

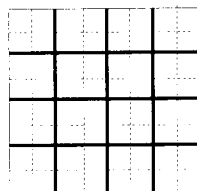
LATITUDE 41.387750

LONGITUDE - 88.269639

COUNTY Grundv

API 120630090800

35 - 34N - 8E



Easting
342687

UTM NAD83
Northing
4374431.9

Elev
520

Town Divine

Township Helix

Company

No.

T.

R. 8E

Sec.

Farm Illinois Clay Products Co.

33

10

Authority Summary Sample Study

N

4

Elevation 520 top. map

Collector

Confidential

Date Drilled

400'S 1700'E of NWc

| No. | Strata | Thickness | Depth | |
|-----|--|-----------|-------|-----|
| | | | Feet | In. |
| | Studied by J. R. Payne, June 1937 | | | |
| | No samples, no record | 71 | 71 | |
| | ORDOVICIAN SYSTEM | | | |
| | Wichawian series | | | |
| | Galena formation | | | |
| | Dolomite, white to light brown, to tan, medium, vesicular | 44 | 115 | |
| | Dolomite, tan to buff to white, medium, shaly surfaces; clay, white, dolomitic, smooth | 10 | 125 | |
| | Dolomite, light buff, medium, vesicular | 60 | 185 | |
| | Dolomite, light buff, medium, vesicular, slightly cherty; clay, green | 5 | 190 | |
| | Dolomite, slightly cherty, light buff, medium | 20 | 210 | |
| | Decoran formation | | | |
| | Dolomite, light buff to gray, shaly surfaces; shale, brown | 25 | 235 | |
| | Shale, calcareous, brown; dolomite, brown to light buff, shaly surfaces | 10 | 245 | |
| | Platteville formation | | | |
| | Dolomite, light brown to buff, fine to medium, shaly surfaces at base | 35 | 280 | |
| | Dolomite, brown to buff to gray, fine, slightly cherty | 10 | 290 | |
| | Dolomite, partly argilla- | | | |

COUNTY Grundy

Sample Set #329

10-33N-8E

(40430-20M)

ILLINOIS GEOLOGICAL SURVEY, URBANA

(3-43) 2

TOWN Dudgeons Corner BOWNSHIP
 COMPANY T.F. Anderson
 FARM *Dudgeon, F.M.*
 AUTHORITY T. F. Anderson
 ELEVATION 520 T.M.
 COLLECTOR H.E.C.

HOLE No.
 DATE DRILLED
 September 18, 1920

1575-5M-7-2

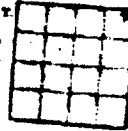
MAP No. 6

8E

33

N

13



| | | | | | | |
|----------|-------------------------------|------------|-----------|-----|-------|-----|
| No. | October 18, 1920 | | | | | |
| C. H. H. | STRATA | Elev. | THICKNESS | | DEPTH | |
| | | | FEET | IN. | FEET | IN. |
| | Surface | 500 | | | | |
| | Soapstone | | 20 | | 20 | |
| | Sand rock, hard } Penn. | ? | 56 | | 76 | |
| | Shale, hard (lag?) | 440 | 4 | | 80 | |
| | Limestone, Galena | 380 | 60 | | 140 | |
| | | 220 | 160 | | 300 | |
| | 6 foot flow | | | | | |
| | Casing: 113' of 4 1/2" black. | | | | | |
| | 27' of 4 1/2" Galvanized. | | | | | |
| | LTM NAD83 | | | | | |
| | Easting | Northing | Elev. | | | |
| | 395507.05 | 4577956.41 | 512 | | | |
| | NO ENVELOPE | | | | | |
| | Grundy | | | | | |

ity Grundy
 BILL RECORD

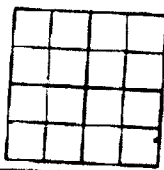
Index No. 0613
 13-33N-8E

TOWN Coal City
COMPANY J. T. Anderson
FARM Brown, Walter
AUTHORITY J. T. Anderson
ELEVATION 550 T.M.
COLLECTOR
CONFIDENTIAL

TOWNSHIP Felix
NO.
NO.

MAP No. 6
R. 8E
SEC. 14

T. 33
N



DATE DRILLED Jan. 1941

900' S. line, 70' E. line

| NO. | LITHOLOGY | THICKNESS | | DEPTH | |
|-----|---|-----------|-------|-------|-----|
| | | FEET | IN. | FEET | IN. |
| | Sand | 20 | | 20 | |
| | Clay | 14 | | 34 | |
| | Sand | 2 | | 36 | |
| | Shale | 39 | | 75 | |
| | Limestone | 8 | | 83 | |
| | Shale | 2 | | 85 | |
| | Sandstone | 16 | | 101 | |
| | Shale | 63 | | 164 | |
| | Limestone | | | 276 | |
| | Water level 57' | | | | |
| | Casing 165' of 4 1/2" pipe | | | | |
| | Capacity 10 g.p.m. with 40' drawdown. | | | | |
| | REPORT OF GAS FLOW MEASUREMENT by W.F. Meents | | | | |
| | July 24, 1969 | | | | |
| | Type of pump - submersible, set at about 150'? | | | | |
| | Barometer Reading - 29.24" | | | | |
| | Gas Volume - In 5 minutes = 3 1/4" of gas in mason jar under water with 3 gallons water per minute passing thru. | | | | |
| | NOTE: Pump will pump water off (below pump intake) in 15 minutes. Well is used for stock only. Well pit has exploded several times due to escaping gas. | | | | |
| | U.T.M. NAD83 | | | | |
| | Easting | Northing | Elev. | | |
| | 813934.1 | 4576413.3 | 548' | | |

UNTY Grundy
ILL. RECORD

INDEX NO. 0614

572-15M-10-20)

ILLINOIS GEOLOGICAL SURVEY, URBANA

14-33N-8E

Table Tools

Studied by T.C. Buschbach 9/49

TRIASSIC SYSTEM

"Sand"
"Clay"
"Sand"

| Thickness | | Depth | |
|-----------|-----|-------|-----|
| Feet | In. | Feet | In. |
| 20 | | 20 | |
| 14 | | 34 | |
| 2 | | 36 | |

MISSISSIPPIAN SYSTEM

"Shale"
"Limestone"
"Shale"
"Sandstone"
"Shale"

| | | | |
|----|--|-----|--|
| 39 | | 75 | |
| 8 | | 83 | |
| 2 | | 85 | |
| 16 | | 101 | |
| 63 | | 164 | |

DOVELOT SYSTEM

Galena Formation

"Limestone"

Dolomite, very calcareous, white to light buff, fine to medium, crystalline; grades to limestone, dolomitic, white, sublithographic to coarse, fossiliferous

| | | | |
|-----|--|-----|--|
| 6 | | 170 | |
| 105 | | 275 | |

IPANY

J.T. Anderson

NO.

M

Brown, Walter

NO.

E DILLED

Jan. 1941

COUNTY NO. 1154

HORITY

Summary Sample Study

VATION

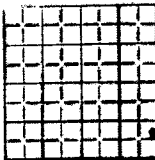
550' T.M. (S.S.)

900' S. line, 70' E. line of Section

UNDY

S.S. #5633

14-33N-8E



ILLINOIS STATE GEOLOGICAL SURVEY

| | Top | Bottom |
|---|-----|--------|
| s, wh-orn, fmd, tr crs, subangr-subrddd, inco | 0 | 6 |
| si, calc, orn, tgh; dol, vy sty, grn, vfly xln | 6 | 10 |
| shale, dolc, sty, bf, wk; dol, as abv, brn-grn | 10 | 25 |
| shale, dolc, sty, grn-gry, wk; dol as abv | 25 | 40 |
| shale, dolc, sty, bf, wk; dol, gry, vy fly xln | 40 | 50 |
| sh, dolc, sty, gry; dol, sty, bf, gry, vfly xln | 50 | 75 |
| sh, calc, sty, bf-gry, wk; ls, bf, lithog-f xln | 75 | 110 |
| ls, vy pyrc, sty, gry, subl, f xln, mtld, fosf | 110 | 140 |
| ls, med xln; dol, sty, calc, brn, f xln, si | 140 | 145 |
| sh, sty, calc, brn, wk; si, dolc-calc, brn; ls, x | 145 | 165 |
| shale, sty, calc, brn, weak; si, as above | 165 | 170 |
| si, vy calc, bf-gry, brit, grdg to ls, sty, lt | 170 | 175 |
| sh, sty, calc, brn, wk; ls, bf, vy f-f xln; si | 175 | 229 |
| dol, sty, calc, bf, fmd, vf xln, grdg ls, dolc | 229 | 250 |
| dol, as above, red-brn sh ptg, grdg to ls | 250 | 275 |
| dol, sty, pyrc, buff, f-med, vy f xln | 275 | 290 |
| ls, pyrc, sty, dolc, bf, wh, vf xln, grdg dol | 290 | 315 |
| dol, as above, grading to ls, as above | 315 | 320 |
| dol, calc, sty, bf, f, f-med xln, orn dolc cmt | 320 | 395 |
| ls, colc, sty, buff, f-med xln, blk, rd spkld | 395 | 420 |
| dol, calc, sty, buff, f xln, trc chert | 420 | 465 |
| ls, doc, bf, lithog, vt f xln, grdg to dol | 465 | 470 |
| dol, calc, gry-wh, vy f xln, mtld | 470 | 490 |
| dol, brn, buff, vy f xln, mtld | 490 | 560 |

Permit Date:

Permit #: 0

COMPANY Layne Western Co., Inc.

FARM Des Plaines Game Farm

DATE DRILLED January 1, 1961

NO. 1

ELEVATION 552ES

COUNTY NO. 01209

LOCATION 1650'N line, 500'E line of section

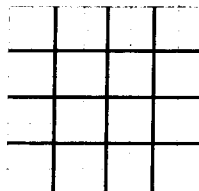
LATITUDE 41.329201

LONGITUDE - 88.172979

COUNTY Will

API 121970120900

22 - 33N - 9E



ILLINOIS STATE GEOLOGICAL SURVEY

| | | |
|--|-----|-----|
| dol, calc, buff-gray, vy f xln, mtld | 560 | 578 |
| ss, wh, vf-med, trc crs, rndd-subrndd, frstd | 578 | 590 |
| ss, wh, f-med, trc crs, rndd-subrndd, frosted | 590 | 655 |
| ss, as above | 655 | 690 |
| ss, as above | 690 | 720 |
| ss, dolc, sty, trc crs, rndd/sub, frstd, incoh | 720 | 810 |
| medium white sandstone | 810 | 813 |
| Total Depth | | 810 |

Driller's Log filed
 Survey Sample Study filed
 Sample set # 39950 (0' - 810')

Additional Lot , subdivision.
 location info:

Address of well:

Location source:

Layne Western Co., Inc.

Des Plaines Game Farm 1

COUNTY Will

API 121970120900 22 - 33N - 9E

ILLINOIS STATE GEOLOGICAL SURVEY

| Water Well | Top | Bottom |
|--|-------------|--------|
| S.S.#9826 0' - 90' | 0 | 0 |
| soil, rock & clay | 0 | 20 |
| limestone | 20 | 40 |
| brown sandstone | 40 | 62 |
| shale | 62 | 90 |
| Total Depth | | 90 |
| Casing: 4.5" PIPE from 0' to 33' | | |
| Size hole below casing: 4.5" | | |
| Water from shale at 0' to 90'. | | |
| Static level 10' below casing top which is 0' above GL | | |
| Pumping level 0' when pumping at 12 gpm for 22 hours | | |
| Driller's Log filed | | |
| Sample set # 9826 (0' - 90') | | |
| Permit Date: June 16, 1943 | Permit #: 0 | |

COMPANY Anderson, J. T.

FARM Nickolson, B. C.

DATE DRILLED June 24, 1943

NO.

ELEVATION 520GL

COUNTY NO. 01336

LOCATION 1000'N line, 1200'E line of SE

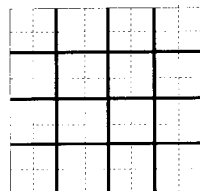
LATITUDE 41.379580

LONGITUDE - 88.272945

COUNTY Grundv

API 120630133600

35 - 34N - 8E



ILLINOIS STATE GEOLOGICAL SURVEY

| Water Well | Top | Bottom |
|---------------------|-----------|--------|
| Total Depth | | 788 |
| Driller's Log filed | | |
| Permit Date: | Permit #: | 0 |

COMPANY Wehling Well Works Inc.

FARM General Elec Co

DATE DRILLED October 1, 1968

NO.

ELEVATION 509TM

COUNTY NO. 01519

LOCATION NE SE SE

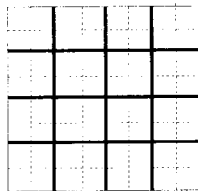
LATITUDE 41.377887

LONGITUDE - 88.269706

COUNTY Grundv

API 120630151900

35 - 34N - 8E



Permit #: 0

34 - 34N - 8E

ILLINOIS STATE GEOLOGICAL SURVEY

| Water Well | Top | Bottom |
|---------------------|-----|--------|
| soil | 0 | 2 |
| gravel | 2 | 4 |
| clay - Nigger heads | 4 | 10 |
| hardpan | 10 | 40 |
| clay | 40 | 48 |
| gravel | 48 | 58 |
| shale | 58 | 89 |
| limestone & shale | 89 | 95 |
| Total Depth | | 95 |

Driller's Log filed

Permit Date:

Permit #: 0

COMPANY

FARM Lorenzo Store

DATE DRILLED May 1, 1950

ELEVATION 0

LOCATION SE SW SE

LATITUDE 41.348104

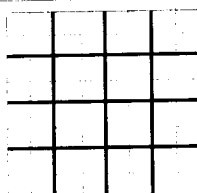
COUNTY Will

NO.

COUNTY NO. 01669

LONGITUDE - 88.216416

API 121970166900



8 - 33N - 9E

SHEET 2

T. 33N

R.

8E

S. 10

COMPANY

HOLE NO.

FARM

Illinois Clay Products CO. HOLE NO.

| No. | Strata | Thickness | | Depth | |
|-----|---|-----------|-----|-------|-----|
| | | Feet | In. | Feet | In. |
| | aceous, gray to brown to buff | 5 | | 295 | |
| | Dolomite, gray to brown to buff, fine, compact | 10 | | 305 | |
| | Dolomite, light buff to brown, fine, compact | 20 | | 325 | |
| | Dolomite, grayish brown to brownish gray, very fine, compact | 65 | | 390 | |
| | Glenwood formation | | | | |
| | Dolomite, silty, sandy, buff, fine, crystalline | 10 | | 400 | |
| | Dolomite, sandy, light buff to gray; sandstone, white, fine | 10 | | 410 | |
| | Dolomite as above; shale, sandy, gray | 10 | | 420 | |
| | Dolomite, silty, buff, very fine | 5 | | 425 | |
| | Dolomite, sandy, buff to gray; sandstone, white, fine to coarse, incoherent | 10 | | 435 | |
| | Shale, silty, gray | 5 | | 440 | |
| | Chazy series | | | | |
| | St. Peter formation | | | | |
| | Sandstone, dolomitic, light gray, very fine to coarse | 25 | | 465 | |
| | Sandstone, white, very fine to coarse, incoherent | 35 | | 500 | |

COUNTY Grundy

Sample Set #329

T-33N-8E

(37231-20M-1-43)

ILLINOIS GEOLOGICAL SURVEY, URBANA

Permit Date:

Permit #: 0

COMPANY Anderson & Son, T. F.

FARM Osbourne Wm

DATE DRILLED December 1, 1915

NO.

ELEVATION 0

COUNTY NO. 01770

LOCATION SE NE SE

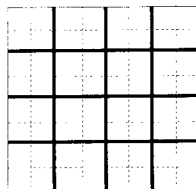
LATITUDE 41.365219

LONGITUDE - 88.269242

COUNTY Grundy

API 120630177000

2 - 33N - 8E



ILLINOIS STATE GEOLOGICAL SURVEY

| Water Well | Top | Bottom |
|--------------------|-----|--------|
| soil | 0 | 3 |
| sandstone | 3 | 53 |
| limestone | 53 | 61 |
| soapstone | 61 | 132 |
| limestone | 132 | 157 |
| Total Depth | | 157 |

Driller's Log filed

Permit Date:

Permit #: 0

COMPANY Anderson & Son, T. F.

FARM Underwood Martin

DATE DRILLED October 1, 1912

NO.

ELEVATION 0

COUNTY NO. 01782

LOCATION NE NW NW

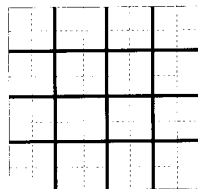
LATITUDE 41.359930

LONGITUDE - 88.264312

COUNTY Grundv

API 120630178200

12 - 33N - 8E



North 4577848.59

138941--5031--5-01127.0

Elev. 520.

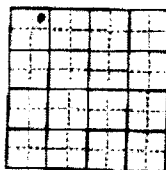
Page 1

ILLINOIS GEOLOGICAL SURVEY, URBANA

| | Thickness | Top | Bottom |
|--------------------|-----------|-----|--------|
| Soil | 6 | | 6 |
| Fire clay | 20 | | 26 |
| Boulders | 14 | | 40 |
| Limestone | 100 | | 140 |
| | 50 | | 190 |
| | | | TD |
| Water Level - flow | | | |
| ENVELOPE | | | |

ANY T.F. Anderson
 DRILLED November 22, 1921
 GRITTY State Water Survey
 SECTION NE NW NW
 TOWN GRUNDY

NO.
 COUNTY NO.



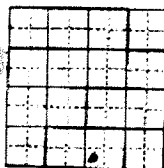
13-33N-8E

ILLINOIS GEOLOGICAL SURVEY, URBANA

| | Thickness | Top | Bottom |
|---|-----------|-----|--------|
| Cliff | 14 | | 14 |
| Shale | 41 | | 55 |
| Sandstone | 30 | | 85 |
| Shale | 10 | | 95 |
| | | | TD |
| Water level: 14' - 20 gallons per minute. | | | |
| Using: 55' of 6" | | | |
| <div> <div> <div>UTM NAD83</div> <div> <div>Easting</div> <div>394743.68</div> </div> </div> <div> <div>Northing</div> <div>4577044.83</div> </div> </div> <div> <div>Elev.</div> <div>520</div> </div> | | | |
| ENVELOPE | | | |

BY J.T. Anderson
 DRILLED Goose Lake School
 DATE July 31, 1959
 FOR State Water Survey
 AT SW SW SE
 TOWN GRUNDY

NO.
 COUNTY NO. 1788



12-33N-8E

ILLINOIS STATE GEOLOGICAL SURVEY

Water Well

Top

Bottom

Total Depth

190

Driller's Log filed

Permit Date:

Permit #: 0

COMPANY Anderson & Son, T. F.

FARM Wainwright W L

DATE DRILLED January 1, 1911

NO.

ELEVATION 0

COUNTY NO. 02001

| LOCATION | NW | SW | SE |
|----------|----|----|----|
|----------|----|----|----|

LATITUDE 41.392170

LONGITUDE - 88.277399

COUNTY Grundy

API 120630200100

26 - 34N - 8E

Top

Bottom

Total Depth

204

Driller's Log filed

Permit Date:

Permit #: 0

COMPANY Anderson & Son, T. F.

FARM Melbourne S

DATE DRILLED July 1, 1905

NO.

ELEVATION 0

COUNTY NO. 02014

LOCATION SE SE NE

LATITUDE 41.383313

LONGITUDE - 88.269850

COUNTY Grundy

API 120630201400

35 - 34N - 8E

A 4x4 grid of squares. Each square contains a crosshair pattern of dashed lines. The grid is labeled with letters A, B, C, D across the top and numbers 1, 2, 3, 4 down the left side.

ILLINOIS STATE GEOLOGICAL SURVEY

| Private Water Well | Top | Bottom |
|--|-------------------------|--------|
| top soil | 0 | 2 |
| clay | 2 | 5 |
| rock | 5 | 60 |
| hard & soft shale | 60 | 125 |
| rock | 125 | 200 |
| Total Depth | | 200 |
| Casing: 5" PLASTIC from 0' to 40' | | |
| Grout: CEMENT from 0 to 0. | | |
| Size hole below casing: 5" | | |
| Water from rock at 80' to 200'. | | |
| Static level 80' below casing top which is 1' above GL | | |
| Pumping level 160' when pumping at 0 gpm for 0 hours | | |
| Permanent pump installed at 160' on June 5, 1984, with a capacity of 0 gpm | | |
| Driller's Log filed | | |
| Location source: Location from permit | | |
| Permit Date: May 31, 1984 | Permit #: 112622 | |

COMPANY Knierim, Phillip E.

FARM Tulumaris, Manny

DATE DRILLED June 1, 1984

NO.

ELEVATION 0

COUNTY NO. 22428

LOCATION NW SW SW

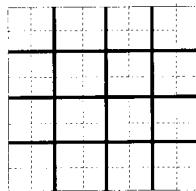
LATITUDE 41.377934

LONGITUDE - 88.267304

COUNTY Grundv

API 120632242800

36 - 34N - 8E



ILLINOIS STATE GEOLOGICAL SURVEY

| Private Water Well | Top | Bottom |
|--------------------|-----|--------|
| clay | 0 | 5 |
| sand | 5 | 15 |
| clay | 15 | 140 |
| limestone | 140 | 265 |
| Total Depth | | 265 |

Casing: 5" A-53 15# from 0' to 140'

Size hole below casing: 5"

Water from limestone at 140' to 265'.

Static level 150' below casing top which is 1' above GL

Pumping level 165' when pumping at 10 gpm for 1 hour

Permanent pump installed at 160' on , with a capacity of 10 gpm

Address of well: Lorenzo Rd.

Location source: Location from permit

Permit Date: March 16, 1976

Permit #: 45327

COMPANY Fykes, Charles N.

FARM Horvat, John

DATE DRILLED May 20, 1976

NO. 1

ELEVATION 0

COUNTY NO. 22585

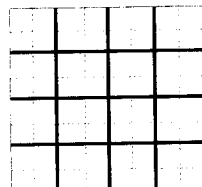
LOCATION SW NW SW

LATITUDE 41.350772

LONGITUDE - 88.266534

COUNTY Grundv

API 120632258500



12 - 33N - 8E

ILLINOIS STATE GEOLOGICAL SURVEY

| Private Water Well | Top | Bottom |
|--|-----|--------|
| overburden | 0 | 44 |
| gravel | 44 | 50 |
| Total Depth | | 50 |
| Casing: 5" STEEL 15# from 0' to 44' | | |
| Screen: 8' of 0" diameter 30 slot | | |
| Grout: CUTTINGS from 0 to 0. | | |
| Size hole below casing: 5" | | |
| Water from gravel & sand at 36' to 50'. | | |
| Static level 10' below casing top which is 0' above GL | | |
| Pumping level 36' when pumping at 20 gpm for 4 hours | | |
| Permanent pump installed at 40' on , with a capacity of 20 gpm | | |
| Location source: Location from permit | | |
| Permit Date: September 9, 1977 | | |
| Permit #: 66574 | | |

COMPANY Knierim, Paul L.

FARM Chamberlain, Eugene

DATE DRILLED September 8, 1977

NO.

ELEVATION 0

COUNTY NO. 22793

LOCATION 350'S line, 355'E line of NE

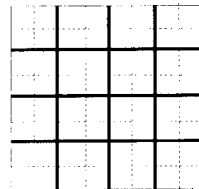
LATITUDE 41.382361

LONGITUDE - 88.308321

COUNTY Grundv

API 120632279300

33 - 34N - 8E



| Private Water Well | Top | Bottom |
|--|------------------------|--------|
| clay | 0 | 35 |
| limestone | 35 | 80 |
| shale | 80 | 130 |
| limestone | 130 | 145 |
| Total Depth | | 145 |
| Casing: 5" A-53 15# from 0' to 40' | | |
| Size hole below casing: 5" | | |
| Water from limestone at 130' to 145'. | | |
| Static level 35' below casing top which is 1' above GL | | |
| Pumping level 60' when pumping at 12 gpm for 1 hour | | |
| Additional Lot #38, subdivision. | | |
| location info: | | |
| Location source: Location from permit | | |
| Permit Date: July 27, 1977 | Permit #: 64203 | |

COMPANY Fykes, Charles N.

FARM Brieser, Gery

DATE DRILLED August 10, 1977

NO. 1

ELEVATION 0

COUNTY NO. 22795

LOCATION NW NE SW

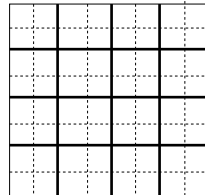
LATITUDE 41.381614

LONGITUDE - 88.262562

COUNTY Grundy

API 120632279500

36 - 34N - 8E



| Private Water Well | Top | Bottom |
|--|------------------------|--------|
| clay | 0 | 39 |
| limestone | 39 | 60 |
| hard shale | 60 | 100 |
| Total Depth | | 100 |
| Casing: 5" A-53 15# from 0' to 40' | | |
| Size hole below casing: 5" | | |
| Water from limestone at 39' to 60'. | | |
| Static level 50' below casing top which is 1' above GL | | |
| Pumping level 65' when pumping at 10 gpm for 1 hour | | |
| Additional Lot #39, subdivision. | | |
| location info: | | |
| Location source: Location from permit | | |
| Permit Date: July 27, 1977 | Permit #: 64204 | |

COMPANY Fykes, Charles N.

FARM Brieser, Gerry

DATE DRILLED August 6, 1977

NO. 1

ELEVATION 0

COUNTY NO. 22796

LOCATION NW NE SW

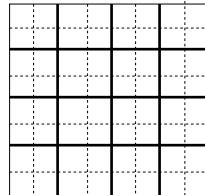
LATITUDE 41.381614

LONGITUDE - 88.262562

COUNTY Grundy

API 120632279600

36 - 34N - 8E



| Private Water Well | Top | Bottom |
|---|-----|--------|
| clay | 0 | 5 |
| sand | 5 | 12 |
| shale | 12 | 96 |
| limestone | 96 | 106 |
| sandstone | 106 | 125 |
| Total Depth | | 125 |
| Casing: 5" A-53 15# from 0' to 96' | | |
| Size hole below casing: 5" | | |
| Water from sandstone at 96' to 125'. | | |
| Static level 15' below casing top which is 1' above GL | | |
| Pumping level 40' when pumping at 12 gpm for 1 hour | | |
| Permanent pump installed at 60' on June 13, 1987, with a capacity of 12 gpm | | |
| Address of well: County Line Rd. | | |
| Location source: Location from permit | | |

Permit Date: June 3, 1987

Permit #: 132328

COMPANY Fykes, Charles N.

FARM Bedford, Don

DATE DRILLED June 12, 1987

NO. 1

ELEVATION 0

COUNTY NO. 22928

LOCATION SE NE SE

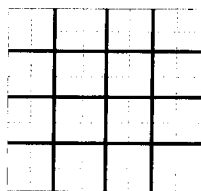
LATITUDE 41.336623

LONGITUDE - 88.249428

COUNTY Grundy

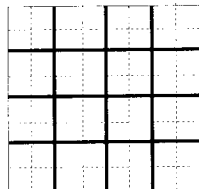
API 120632292800

13 - 33N - 8E



ILLINOIS STATE GEOLOGICAL SURVEY

| Private Water Well | Top | Bottom |
|--|-----|--------|
| top soil | 0 | 2 |
| clay | 2 | 25 |
| limestone | 25 | 75 |
| shale | 75 | 150 |
| limestone | 150 | 165 |
| Total Depth | | 165 |
| Casing: 5" A-53 15# from 0' to 40' | | |
| Grout: CEMENT from -5 to 40. | | |
| Size hole below casing: 5" | | |
| Water from limestone at 40' to 165'. | | |
| Static level 20' below casing top which is 1' above GL | | |
| Pumping level 80' when pumping at 20 gpm for 1 hour | | |
| Permanent pump installed at 100' on November 13, 1987, with a capacity of 12 gpm | | |
| Location source: Location from permit | | |
| Permit Date: October 22, 1987 Permit #: 136530 | | |
| COMPANY Fykes, Charles N. FARM Randolph, Doug DATE DRILLED November 2, 1987 NO. 1 ELEVATION 0 COUNTY NO. 22948 LOCATION NW SE SW LATITUDE 41.378023 LONGITUDE - 88.262462 COUNTY Grundv API 120632294800 36 - 34N - 8E | | |



Permit #:

35 - 34N - 8E

ILLINOIS STATE GEOLOGICAL SURVEY

| Private Water Well | Top | Bottom |
|---|-----|--------|
| clay | 0 | 5 |
| shale | 5 | 20 |
| limestone | 20 | 70 |
| shale | 70 | 120 |
| limestone | 120 | 290 |
| Total Depth | | 290 |
| Casing: 5" PVC from 0' to 45' | | |
| Grout: BENT SLRY CTGS from 0 to 45. | | |
| Water from limestone at 120' to 290'. | | |
| Static level 180' below casing top which is 1' above GL | | |
| Pumping level 200' when pumping at 0 gpm for 4 hours | | |
| Permanent pump installed at 200' on November 17, 1994, with a capacity of 12 gpm | | |
| Additional Lot #8, Thorson subdivision. location info: | | |
| Address of well: 8095 Blanchard Circle | | |
| Location source: Location from permit | | |
| Permit Date: October 4, 1994 Permit #: | | |

COMPANY Fordonski, Keith

FARM Massey, Rich

DATE DRILLED November 7, 1994

NO.

ELEVATION 0

COUNTY NO. 23313

LOCATION NE NW SW

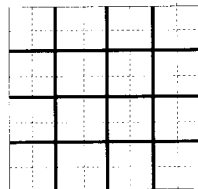
LATITUDE 41.381581

LONGITUDE - 88.264979

COUNTY Grundv

API 120632331300

36 - 34N - 8E



ILLINOIS STATE GEOLOGICAL SURVEY

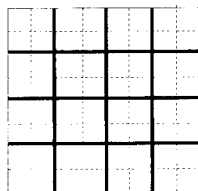
| Private Water Well | Top | Bottom |
|--------------------|-----|--------|
| brown clay | 0 | 8 |
| clay & shale | 8 | 15 |
| gray clay | 15 | 17 |
| sandrock | 17 | 79 |
| Cahokia shale | 79 | 82 |
| Total Depth | | 82 |

Casing: 6" SDR 21 from 0' to 32'
 Grout: BENTONITE from 0 to 32.
 Size hole below casing: 6"
 Static level 11' below casing top which is 1' above GL
 Pumping level 56' when pumping at 0 gpm for 1 hour
 Permanent pump installed at 60' on February 4, 1996, with a
 capacity of 12 gpm

Additional location info: Lot #6, Cardinal Lake subdivision.
 Address of well: 4490 Dresden Rd.
 Morris, IL
 Location source: Location from permit

Permit Date: October 19, 1995 Permit #:

COMPANY Wills, Elmer
 FARM Schmitt, Frank & Claudette
 DATE DRILLED February 1, 1996 NO.
 ELEVATION 0 COUNTY NO. 23493
 LOCATION SW NW SW
 LATITUDE 41.350772 LONGITUDE - 88.266534
 COUNTY Grundv API 120632349300 12 - 33N - 8E



ILLINOIS STATE GEOLOGICAL SURVEY

| Private Water Well | Top | Bottom |
|--------------------|-----|--------|
| black dirt | 0 | 3 |
| blue clay | 3 | 15 |
| gray shale | 15 | 85 |
| brown limestone | 85 | 385 |
| Total Depth | | 385 |

Casing: 5" A-53 STEEL 15# from -1' to 90'

Grout: BENTONITE from 0 to 90.

Water from limestone at 85' to 385'.

Static level 120' below casing top which is 1' above GL

Pumping level 260' when pumping at 15 gpm for 1 hour

Additional Lot #9, subdivision.

location info:

Address of well: 5150 N. Dresden

Location source: Location from permit

Permit Date: February 20, 1997

Permit #: 063-012

COMPANY Matherly, Hubert

FARM McCormick, James

DATE DRILLED April 7, 1997

NO.

ELEVATION 0

COUNTY NO. 23526

LOCATION NW NW NW

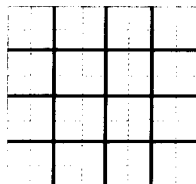
LATITUDE 41.359852

LONGITUDE - 88.266670

COUNTY Grundv

API 120632352600

12 - 33N - 8E



ILLINOIS STATE GEOLOGICAL SURVEY

| Private Water Well | Top | Bottom |
|--------------------|-----|--------|
| topsoil | 0 | 2 |
| clay | 2 | 6 |
| gravel | 6 | 10 |
| clay | 10 | 33 |
| hard gray rock | 33 | 138 |
| white lime | 138 | 205 |
| shale | 205 | 220 |
| Total Depth | | 220 |

Casing: 5" 200 PSI SDR 21 from 0' to 80'

Grout: BENTONITE from 0 to 80.

Water from limestone at 180' to 205'.

Static level 100' below casing top which is 1' above GL

Pumping level 160' when pumping at 5 gpm for 1 hour

Additional Lot #3, Smokey Hills subdivision.

location info:

Address of well: 3830 N. Diesden

Coal City, IL

Location source: Location from permit

Permit Date: March 19, 1996

Permit #:

COMPANY Stinnett, David

FARM Scwantes, Bill/Saunders, Jill

DATE DRILLED September 24, 1996

NO.

ELEVATION 0

COUNTY NO. 23548

LOCATION SW NW NW

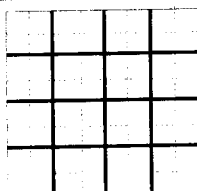
LATITUDE 41.343515

LONGITUDE - 88.266375

COUNTY Grundv

API 120632354800

13 - 33N - 8E



ILLINOIS STATE GEOLOGICAL SURVEY

| Private Water Well | Top | Bottom |
|---|-----|--------|
| clay | 0 | 15 |
| shale | 15 | 105 |
| limestone | 105 | 290 |
| Total Depth | | 290 |
| Casing: 5" BLACK from 0' to 105' | | |
| Grout: BENTONITE from 0 to 105. | | |
| Static level 12' below casing top which is 0' above GL | | |
| Pumping level 260' when pumping at 0 gpm for 2 hours | | |
| Permanent pump installed at 260' on December 9, 1996, with a capacity of 7 gpm | | |
| Additional Lot #11, subdivision. location info: | | |
| Address of well: Dresden Rd. Morris, IL | | |
| Location source: Location from permit | | |
| Permit Date: June 25, 1996 | | |
| Permit #: 063-101 | | |

COMPANY Bisping, Calvin

FARM Bettenhauser, Ronald

DATE DRILLED September 10, 1996

NO.

ELEVATION 0

COUNTY NO. 23550

LOCATION SW SW SW

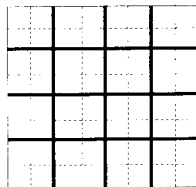
LATITUDE 41.361664

LONGITUDE - 88.266718

COUNTY Grundv

API 120632355000

1 - 33N - 8E



ILLINOIS STATE GEOLOGICAL SURVEY

| Noncommunity - Public Water Well | | Top | Bottom |
|---|--|-------------------|--------|
| sand & clay | | 0 | 5 |
| limestone | | 5 | 55 |
| green shale | | 55 | 130 |
| gray lime | | 130 | 160 |
| shale seam dark gray | | 160 | 165 |
| gray lime | | 165 | 460 |
| Total Depth | | | 460 |
| Casing: 6" STEEL A53 from 0' to 43' | | | |
| 4" A53 W/K PACKERS from 25' to 170' | | | |
| Grout: NEAT CEMENT from 0 to 42. | | | |
| Water from limestone at 170' to 460'. | | | |
| Static level 250' below casing top which is 1' above GL | | | |
| Pumping level 300' when pumping at 20 gpm for 2 hours | | | |
| Additional Lot , Goose Lake subdivision. | | | |
| location info: | | | |
| Address of well: same as above | | | |
| Location source: Location from permit | | | |
| Permit Date: November 12, 1996 | | Permit #: 063-170 | |

COMPANY Kerry, Charles M.

FARM Dresden Nuclear Plant

DATE DRILLED March 21, 1997

NO.

ELEVATION 0

COUNTY NO. 23556

LOCATION NE NE NW

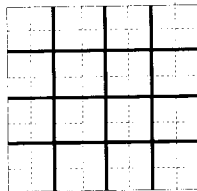
LATITUDE 41.374053

LONGITUDE - 88.279132

COUNTY Grundv

API 120632355600

2 - 33N - 8E



| Private Water Well | Top | Bottom |
|-----------------------|-----|--------|
| topsoil | 0 | 3 |
| sand & gravel | 3 | 10 |
| shale | 10 | 30 |
| sand & gravel | 30 | 40 |
| gummy shale | 40 | 48 |
| blue shale | 48 | 60 |
| brown shale | 60 | 70 |
| gray limestone | 70 | 90 |
| gummy shale | 90 | 95 |
| sandy gray lime 5 gpm | 95 | 127 |
| shale & pyrite | 127 | 164 |
| limestone | 164 | 167 |
| Total Depth | | 167 |

Casing: 5" SCH 40 ASA-53 from -2' to 72'

Size hole below casing: 4.87"

Water from sandy gray lime at 95' to 127'.

Static level 30' below casing top which is 2' above GL

Additional Lot 4, Smokey Hills subdivision.
location info:

Address of well: 3870 N. Dresden Rd.
Coal City, IL

Location source: Location from permit

Permit Date: May 10, 1996

Permit #: 063-073

COMPANY Wehling, Robert

FARM Shetina, Kenneth & Dawn

DATE DRILLED August 9, 1996

NO. 1

ELEVATION 0

COUNTY NO. 23603

LOCATION SW NW NW

LATITUDE 41.343515

LONGITUDE - 88.266375

COUNTY Grundv

API 120632360300

13 - 33N - 8E



ILLINOIS STATE GEOLOGICAL SURVEY

| Private Water Well | Top | Bottom |
|--------------------|-----|--------|
| fill | 0 | 3 |
| brown clay | 3 | 8 |
| shale | 8 | 23 |
| sandrock | 23 | 77 |
| Total Depth | | 77 |

Casing: 6" SDR 17 from 0' to 40'

Grout: BENSEAL from 0 to 40.

Water from shale at 8' to 77'.

Static level 8' below casing top which is 1' above GL

Pumping level 40' when pumping at 10 gpm for 4 hours

Additional Lot , subdivision.
location info:

Address of well: 4530 N. Dresden Rd.
Morris, IL

Location source: Location from permit

Permit Date: March 12, 1998

Permit #: 063-022

COMPANY Wills, William D.

FARM Price, Larry W.

DATE DRILLED September 30, 1998

NO.

ELEVATION 0

COUNTY NO. 23663

LOCATION NW SW NW

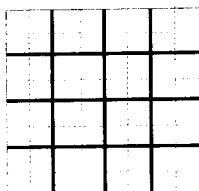
LATITUDE 41.356219

LONGITUDE - 88.266615

COUNTY Grundv

API 120632366300

12 - 33N - 8E



| Non Potable Water Well | Top | Bottom |
|------------------------|-----|--------|
| clay | 0 | 15 |
| shale | 15 | 71 |
| sandrock | 71 | 75 |
| Maquoketa shale | 75 | 99 |
| Trenton | 99 | 451 |
| St. Peter | 451 | 700 |
| Total Depth | | 700 |

Casing: 8" STEEL from 0' to 103'

Grout: BENSEAL from 0 to 103.

Water from St. Peter at 190' to 700'.

Static level 190' below casing top which is 1' above GL

Pumping level 441' when pumping at 0 gpm for 0 hours

Additional Lot , subdivision.

location info:

Address of well: Pine Bluff Rd.

Morris, IL

Location source: Location from permit

Permit Date: August 24, 1999

Permit #:

COMPANY Wills, William D.

FARM Grohne, Dave

DATE DRILLED September 1, 1999

NO.

ELEVATION 0

COUNTY NO. 23768

LOCATION SW SW SE

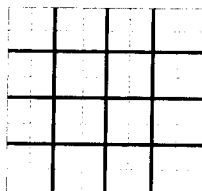
LATITUDE 41.346925

LONGITUDE - 88.276033

COUNTY Grundv

API 120632376800

11 - 33N - 8E



ILLINOIS STATE GEOLOGICAL SURVEY

| Private Water Well | Top | Bottom |
|--------------------------------|-----|--------|
| gray clay | 0 | 30 |
| clay, gummy shale | 30 | 40 |
| gray lime | 40 | 61 |
| shale, gummy shale, lime | 61 | 87 |
| shale, gummy shale, brown lime | 87 | 180 |
| gray lime | 180 | 198 |
| gray lime gummy shale | 198 | 220 |
| gray lime | 220 | 270 |
| sand | 270 | 273 |
| gray lime | 273 | 287 |
| Total Depth | | 287 |

Casing: 6" STEEL ASA 53 from 1' to 50'

Grout: MOUNDED BENT. from 0 to 0.

Size hole below casing: 5.87"

Water from limestone at 273' to 287'.

Static level 167' below casing top which is 1' above GL

Pumping level 200' when pumping at 0 gpm for 2 hours

Permanent pump installed at 180' on September 23, 1999, with a capacity of 0 gpm

Additional Lot 2, Smokey Hill subdivision.
location info:

Address of well: 3780 N. Dresden Rd.
Coal City, IL

Location source: Location from permit

Permit Date: May 26, 1999

Permit #:

COMPANY Edward Hall - Web Well & Pump

FARM Berry, Jeffrey & Tammy

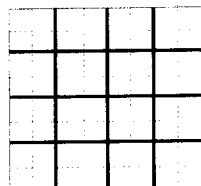
DATE DRILLED September 21, 1999 NO. 1

ELEVATION 0 COUNTY NO. 23769

LOCATION SW NW NW

LATITUDE 41.343515 LONGITUDE - 88.266375

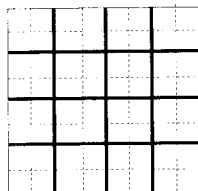
COUNTY Grundv API 120632376900



13 - 33N - 8E

ILLINOIS STATE GEOLOGICAL SURVEY

| Private Water Well | Top | Bottom |
|---|------------------------------|---------------------|
| fill | 0 | 5 |
| gray clay | 5 | 18 |
| shale | 18 | 90 |
| Trenton limestone | 90 | 300 |
| Total Depth | | 300 |
| Casing: 6" SDR 21 from 0' to 44' | | |
| Grout: BENSEAL from 0 to 44. | | |
| Static level 154' below casing top which is 1' above GL | | |
| Pumping level 200' when pumping at 15 gpm for 3 hours | | |
| Additional Lot , subdivision. | | |
| location info: | | |
| Address of well: same as above | | |
| Location source: Location from permit | | |
| Permit Date: May 4, 2000 | Permit #: | |
| COMPANY Wills, William D. | | |
| FARM Kemmerling, Ray | | |
| DATE DRILLED May 1, 2000 | NO. | |
| ELEVATION 0 | COUNTY NO. 23861 | |
| LOCATION NW SW SW | | |
| LATITUDE 41.363471 | LONGITUDE - 88.266785 | |
| COUNTY Grundy | API 120632386100 | 1 - 33N - 8E |



ILLINOIS STATE GEOLOGICAL SURVEY

| Private Water Well | Top | Bottom |
|--------------------|-----|--------|
| soil | 0 | 1 |
| yellow clay | 1 | 8 |
| gray shale & clay | 8 | 15 |
| cap rock | 15 | 16 |
| sandrocks | 16 | 18 |
| hard gray shale | 18 | 30 |
| shale | 30 | 91 |
| Trenton lime | 91 | 280 |
| Total Depth | | 280 |

Casing: 5" SDR 21 from 0' to 95'

Grout: BENSEAL from 0 to 95.

Water from limestone at 200' to 280'.

Static level 160' below casing top which is 1' above GL

Pumping level 0' when pumping at 15 gpm for 2 hours

Permanent pump installed at 260' on , with a capacity of 10 gpm

Additional Lot , subdivision.
location info:

Address of well: 4800 North Dresden Rd.
Morris, IL

Location source: Location from permit

Permit Date: November 6, 2000

Permit #:

COMPANY Wills, William D.

FARM English, Tim

DATE DRILLED

NO.

ELEVATION 0

COUNTY NO. 23974

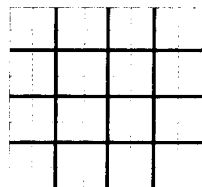
LOCATION NW NW SW

LATITUDE 41.352590

LONGITUDE - 88.266560

COUNTY Grundv

API 120632397400



12 - 33N - 8E

| Private Water Well | Top | Bottom |
|--------------------|-----|--------|
| topsoil | 0 | 2 |
| clay | 2 | 34 |
| sand gravel | 34 | 62 |
| shale | 62 | 143 |
| rock | 143 | 400 |
| Total Depth | | 400 |

Casing: 6" BLACK STEEL from -1' to 62'
4.5" PVC from -1' to 160'

Grout: BENTONTIE from 0 to 62.

Water from rock at 160' to 400'.

Static level 140' below casing top which is 1' above GL

Pumping level 260' when pumping at 12 gpm for 4 hours

Permanent pump installed at 260' on August 31, 2001, with a
capacity of 12 gpm

Additional Lot 2, Meadow Ridge subdivision.
location info:

Address of well: 3920 Coneflower Dr.

Location source: Location from permit

Permit Date: March 22, 2001

Permit #:

COMPANY Walters, Larry

FARM Greco, Kevin & Dawn

DATE DRILLED August 30, 2001

NO. 2

ELEVATION 0

COUNTY NO. 24054

LOCATION SW NW NE

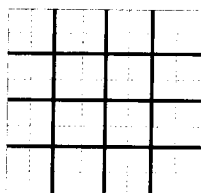
LATITUDE 41.343737

LONGITUDE - 88.256872

COUNTY Grundy

API 120632405400

13 - 33N - 8E



ILLINOIS STATE GEOLOGICAL SURVEY

Private Water Well

| | Top | Bottom |
|--------------------|-----|--------|
| soil | 0 | 3 |
| brown clay | 3 | 11 |
| sand & gravel | 11 | 15 |
| gray clay | 15 | 30 |
| gravel | 30 | 32 |
| gray shale | 32 | 47 |
| coal | 47 | 48 |
| Silurian | 48 | 71 |
| black Silurian | 71 | 78 |
| Total Depth | | 78 |

Casing: 5" SDR 21 from 0' to 40'

Grout: BENSEAL from 0 to 40.

Water from Silurian at 48' to 78'.

Static level 18' below casing top which is 2' above GL

Pumping level 30' when pumping at 10 gpm for 2 hours

Permanent pump installed at 40' on April 24, 2002, with a capacity of 10 gpm

Additional Lot 5, Meadow Ridge subdivision.
location info:

Address of well: 3925 Coneflower
Coal City, IL

Location source: Location from permit

Permit Date: January 10, 2002

Permit #:

COMPANY Wills, William D.

FARM Jackson, Glen

DATE DRILLED April 16, 2002

NO.

ELEVATION 0

COUNTY NO. 24244

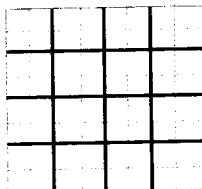
LOCATION SW NW NE

LATITUDE 41.343737

LONGITUDE - 88.256872

COUNTY Grundv

API 120632424400



13 - 33N - 8E

| Private Water Well | Top | Bottom |
|--------------------|-----|--------|
| strip mine spoil | 0 | 13 |
| gray clay & shale | 13 | 70 |
| Silurian | 70 | 96 |
| Maquoketa | 96 | 168 |
| Trenton | 168 | 530 |
| St. Peter | 530 | 600 |
| Total Depth | | 600 |

Casing: 5" STEEL from 0' to 173'

Grout: BENSEAL from 0 to 170.

Water from St. Peter at 0' to 0'.

Static level 224' below casing top which is 2' above GL

Pumping level 260' when pumping at 25 gpm for 2 hours

Additional Lot H, White Deer subdivision.
location info:

Address of well: 8925 Clover Lane
Coal City, IL

Location source: Location from permit

Permit Date: June 16, 2003

Permit #:

COMPANY Wills, William D.

FARM Miller, Carl W.

DATE DRILLED April 9, 2004

NO.

ELEVATION 0

COUNTY NO. 24338

LOCATION SE NE SE

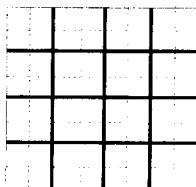
LATITUDE 41.336623

LONGITUDE - 88.249428

COUNTY Grundv

API 120632433800

13 - 33N - 8E



ILLINOIS STATE GEOLOGICAL SURVEY

| Private Water Well | Top | Bottom |
|--|------------------|--------|
| topsoil | 0 | 1 |
| clay | 1 | 6 |
| shale | 6 | 80 |
| lime | 80 | 205 |
| Total Depth | | 205 |
| Casing: 5" PVC from -1' to 82' | | |
| Grout: BENTONITE from 0 to 82. | | |
| Water from limestone at 250' to 265'. | | |
| Static level 156' below casing top which is 1' above GL | | |
| Pumping level 160' when pumping at 12 gpm for 4 hours | | |
| Permanent pump installed at 205' on September 11, 2004, with a capacity of 12 gpm | | |
| Additional Lot 10, subdivision. location info: | | |
| Address of well: Dresden Rd. Morris, IL | | |
| Location source: Location from permit | | |
| Permit Date: June 4, 2004 | Permit #: | |

COMPANY Doyle, Gerald

FARM Marino, Larry & Tammy

DATE DRILLED September 5, 2004

NO. 1

ELEVATION 0

COUNTY NO. 24381

LOCATION SW NW SW

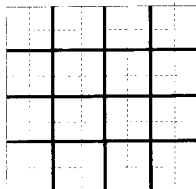
LATITUDE 41.365281

LONGITUDE - 88.266854

COUNTY Grundv

API 120632438100

1 - 33N - 8E



ILLINOIS STATE GEOLOGICAL SURVEY

| Private Water Well | Top | Bottom |
|--------------------------|-----|--------|
| drift | 0 | 25 |
| shale | 25 | 80 |
| sandrock & shale streaks | 80 | 104 |
| rock | 104 | 105 |
| shale | 105 | 107 |
| limestone | 107 | 280 |
| Total Depth | | 280 |

Casing: 5" PVC SDR 21 from -1' to 111'

Grout: GROUT from 0 to 105.

Water from limestone at 180' to 280'.

Static level 100' below casing top which is 1' above GL

Pumping level 160' when pumping at 20 gpm for 2 hours

Additional Lot 1, Paradise Lake subdivision.
location info:

Address of well: 7755 E Pine Bluff Rd.
Morris, IL

Location source: Location from permit

Permit Date: March 31, 2005

Permit #:

COMPANY Area Well & Pump

FARM Hill, Greg

DATE DRILLED April 6, 2005

NO. 1

ELEVATION 0

COUNTY NO. 24430

LOCATION NE NW NE

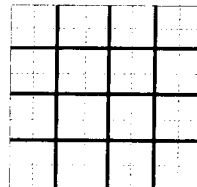
LATITUDE 41.345154

LONGITUDE - 88.273577

COUNTY Grundy

API 120632443000

14 - 33N - 8E



ILLINOIS STATE GEOLOGICAL SURVEY

| Private Water Well | Top | Bottom |
|---|-----|--------|
| soil | 0 | 2 |
| yellow clay | 2 | 11 |
| gray clay | 11 | 20 |
| Slurian | 20 | 46 |
| sandy shale | 46 | 50 |
| Maquoketa | 50 | 92 |
| Trenton | 92 | 320 |
| Total Depth | | 320 |
| Casing: 6" PVC from 0' to 92' | | |
| Grout: BENSEAL from 0 to 92. | | |
| Water from lime at 92' to 320'. | | |
| Static level 197' below casing top which is 3' above GL | | |
| Pumping level 260' when pumping at 10 gpm for 1 hour | | |
| Permanent pump installed at 280' on September 2, 2005, with a capacity of 10 gpm | | |
| Additional Lot , subdivision. location info: | | |
| Address of well: 4960 W. Dresden Morris, IL | | |
| Location source: Location from permit | | |
| Permit Date: May 9, 2005 Permit #: | | |

COMPANY Wills, William D.

FARM Fergelec, Jim

DATE DRILLED August 22, 2005

NO.

ELEVATION 0

COUNTY NO. 24461

LOCATION NW SW NW

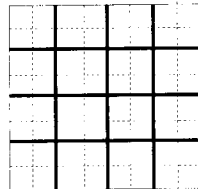
LATITUDE 41.356209

LONGITUDE - 88.266591

COUNTY Grundy

API 120632446100

12 - 33N - 8E



GEOLOGICAL AND WATER SURVEYS WELL RECORD

Completed 1-24-75

See Plains Dept of Conservation

0. Property owner State of Illinois Well No. _____

Address 216 E. Monroe St. Springfield, Illinois

Driller Wahling Well Works License No. 102-2

1. Permit No. 35981 Date _____

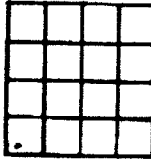
2. Water from _____ 13. County Madison

Formation _____ at depth _____ to _____ ft. Sec. 4

4. Screen: Diam. 10 in. Twp. 33N

Length: _____ ft. Slot _____ Rge. 9E

Elev. 517'



5. Casing and Liner Pipe

| Dim. (in.) | Kind and Weight | From (Ft.) | To (Ft.) |
|------------|---------------------|------------|------------|
| <u>6</u> | <u>black casing</u> | <u>0</u> | <u>576</u> |
| | <u>cemented in</u> | | |
| | | | |

SHOW
LOCATION IN
SECTION FLAT

100' SL,
650' WL, of
section

6. Size Hole below casing: 6 in.

7. Static level 222 ft. below casing top which is _____ ft.
above ground level. Pumping level _____ ft. when pumping at _____
gpm for _____ hours.

| 3. FORMATIONS PASSED THROUGH | THICKNESS TOP | DEPTH OF BOTTOM |
|------------------------------|------------------|--------------------|
| <u>loose dirt and gravel</u> | <u>0</u> | <u>1</u> |
| <u>clay and gravel</u> | <u>1</u> | <u>9</u> |
| <u>shale</u> | <u>9</u> | <u>115</u> |
| <u>shale lime</u> | <u>115</u> | <u>130</u> |
| <u>shale</u> | <u>130</u> | <u>205</u> |
| <u>brown lime</u> | <u>205</u> | <u>275</u> |
| <u>lime</u> | <u>275</u> | <u>556</u> |
| <u>and</u> | <u>556</u> | <u>770</u> |
| <u>lime</u> | <u>770</u> | <u>775</u> |

CONTINUE ON SEPARATE SHEET IF NECESSARY

IGNED Wahling Well Works, Inc. DATE 2-5-75

Wendell E. Wahling
WILL

COUNTY No. 24931

S.S. # 59921
(Over)

4-33N-9E

ILLINOIS STATE GEOLOGICAL SURVEY

| Private Water Well | Top | Bottom |
|---|-----|--------|
| black dirt | 0 | 3 |
| blue clay | 3 | 15 |
| gray shale | 15 | 85 |
| brown limestone | 85 | 385 |
| Total Depth | | 385 |
| Casing: 5" A-53 STEEL 15# from -1' to 90' | | |
| Grout: BENTONITE from 0 to 90. | | |
| Water from limestone at 85' to 385'. | | |
| Static level 120' below casing top which is 1' above GL | | |
| Pumping level 260' when pumping at 15 gpm for 1 hour | | |
| Additional Lot #9, subdivision. | | |
| location info: | | |
| Address of well: 5150 N. Dresden | | |
| Location source: Location from permit | | |
| Permit Date: February 20, 1997 | | |
| Permit #: 063-012 | | |

COMPANY Matherly, Hubert

FARM McCormick, James

DATE DRILLED April 7, 1997

NO.

ELEVATION 0

COUNTY NO. 23526

LOCATION NW NW NW

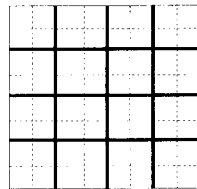
LATITUDE 41.359852

LONGITUDE - 88.266670

COUNTY Grundv

API 120632352600

12 - 33N - 8E

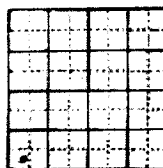


101

ILLINOIS GEOLOGICAL SURVEY, URBANA

| | Thickness | Top | Bottom |
|--|-----------|-----|--------|
| Partial Sample Study by Anne M. Graese January 8, 1981 | | | |
| INTERNARY SYSTEM | | | |
| Leistocene Series | | | |
| Sand, moderate yellowish brown (10 YR 5/4), argillaceous, subrounded to subangular | 5 | | 10 |
| DOVICIAN SYSTEM | | | |
| Maquoketa Group | | | |
| Brainard shale | | | |
| Shale, greenish gray (5G 6/1) to dark greenish gray (5 G 4/1), silty, dolomitic, weak to moderately tough | 10 | | 20 |
| Shale, same; trace greenish gray (5 GY 4/1), dolomite, fine grained, silty, argillaceous, slightly dark gray (N3), speckled | 20 | | 65 |
| Same, mostly weak and not as silty; dolomite, more calcareous | 65 | | 70 |
| Shale (95%) similar to above, greenish gray (5 GY 6/1); limestone (5%), dark greenish gray (5 GY 4/1), very argillaceous, silty, silty very fine to fine grained | 70 | | 75 |
| Limestone (70%), olive gray (5Y 4/1), slightly dark gray (N3), speckled, very fine to coarse grained, argillaceous to very argillaceous, crinoidal; shale (30%), olive gray (5Y 4/1), slightly dark gray (N3), speckled, argillaceous, calcareous | 75 | | 80 |
| Same, as above but limestone is more fossiliferous (bryozoans, crinoids) than above | 80 | | 90 |

COMPANY Wehling Well Works Inc. 21130
 BY Des Plaines Dept. of Conservation
 DATE DRILLED January 1975 COUNTY NO. 24931
 DRILLER Anne M. Graese
 LOCATION 517'
 SECTION 100' S line, 650' W line of SW
 TOWNSHIP WILL SS# 59921
 COUNTY 4-33N-9E





ILLINOIS GEOLOGICAL SURVEY, URBANA

| | Thickness | Top | Bottom |
|--|-----------|-----|--------|
| Limestone (60%) same, as above; shale (40%) same, as above | | 90 | 95 |
| Shale (80%), same; limestone (20%), same | | 95 | 100 |
| Fort Atkinson Limestone | | | |
| Limestone, yellowish gray (5Y 8/1) to pinkish gray (5 YR 8/1), coarse grained, relatively pure, some dark gray (#3), speckled; some shale, similar to above (sample ground fine) | | 100 | 105 |
| Limestone (60%) same, as above; shale (40%), greenish gray (5 GY 6/1), weak, silty, calcareous | | 105 | 110 |
| Limestone, pinkish gray (5 YR 8/1) to yellowish gray (5Y 8/1), mottled slightly with greenish gray (5 GY 6/1), coarse grained, pure crinoidal | | 110 | 115 |
| Limestone, yellowish gray (5 YR 8/1) same, as above, some light olive gray (5Y 6/1), which is argillaceous | | 115 | 120 |
| Scales shale | | | |
| Limestone (70%), olive gray (5Y 4/1), very fine to fine grained, very argillaceous; shale (30%), olive gray (5Y 4/1), calcareous, moderately tough, some pyritic | | 120 | 130 |
| Missing sample | | 130 | 135 |
| Limestone same, as above | | 135 | 140 |
| Shale (95%), olive gray (5 Y 4/1), calcareous, moderately tough to tough, some weak | | 140 | 160 |
| Missing sample | | 160 | 165 |
| Shale same, as above | | 165 | 200 |
| Missing samples | | 200 | 210 |

Wehling Well Works Inc. Des Plains Dept of Cons.

WILL

SS# 59921

A-22M-0F

ILLINOIS GEOLOGICAL SURVEY, URBANA

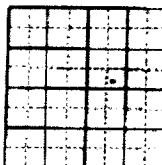
| | Thickness | Top | Bottom |
|---|-----------|-----|--------|
| Galena Group Dolomite, pale yellowish brown (10 YR 6/2), very slightly dark gray (N3) speckled, fine to medium grained, calcareous, vesicular, some olive gray (5Y 4/1) partings | | 210 | 220 |

Welling Well Works Inc. Des Plaines Dept. of Cons
WILL SS# 59921 4-33N-9E

ILLINOIS GEOLOGICAL SURVEY, URBANA

| Permit #44234 | Thickness | Top | Bottom |
|---------------------------------|-----------------------------|-----|--------|
| Drift, sand, gravel | | 0 | 10 |
| Gray shale and sand | | 10 | 15 |
| Sand | | 15 | 25 |
| Shale | | 25 | 45 |
| Shale and gray limestone | | 45 | 50 |
| Shale | | 50 | 55 |
| Shale and limestone | | 55 | 65 |
| Limestone | | 65 | 70 |
| Limestone and shale | | 70 | 75 |
| Shale | | 75 | 80 |
| Light gray limestone | | 80 | 110 |
| Light gray limestone-Dolomite | | 110 | 115 |
| Dark limestone | | 115 | 120 |
| Dark limestone and shale | | 120 | 125 |
| Dark limestone | | 125 | 145 |
| Dark limestone and shale | | 145 | 160 |
| Hard shale | | 160 | 170 |
| Hard shale and little limestone | | 170 | 185 |
| Hard shale | | 185 | 190 |
| Hard shale and little limestone | | 190 | 200 |
| Total Depth-Samples | | | 260 |
| Water from limestone 120 - 200' | | | |
| Casing: 6" Black 19 # 0 - 90' | | | |
| Size Hole below casing: 6" | | | |
| Hole caved in at 130' | | | |
| U.S. # 60364 | | | |
| NO ENVELOPE | (Continues on back of log.) | | |

ANY K & K Well Drilling
 Ill. Dept. of Conservation No.
 DRILLED January 1976 COUNTY NO. 25594
 DRIFT Company
 ATION 520' ETM - DRK & JDT
 ION Ap. 2400' N. line, 1900' E. line, NE
 IV WILL



9-33N-9E

ILLINOIS STATE GEOLOGICAL SURVEY

| Private Water Well | Top | Bottom |
|--------------------|-----|--------|
| SS #9935 (0'-38') | 0 | 0 |
| clay | 0 | 4 |
| gravel | 4 | 12 |
| shale | 12 | 35 |
| limestone & shale | 35 | 60 |
| limetone | 60 | 105 |
| limeston & shale | 105 | 175 |
| limestone | 175 | 505 |
| Total Depth | | 505 |

Casing: 5" A-53 15#/FT from 0' to 42'

Size hole below casing: 5"

Water from limestone at 175' to 505'.

Static level 260' below casing top which is 1' above GL

Pumping level 340' when pumping at 12 gpm for 1 hour

Permanent pump installed at 360' on , with a capacity of 12 gpm

Driller's Log filed

Additional Lot , Phalen Acres subdivision.

location info: Unit #74

Location source: Location from permit

Permit Date: July 14, 1977

Permit #: 63473

COMPANY Fykes, Charles N.

FARM Grate, Tony

DATE DRILLED July 19, 1977

NO. 1

ELEVATION 0

COUNTY NO. 27909

LOCATION SW NE SW

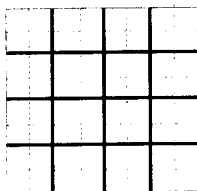
LATITUDE 41.365974

LONGITUDE - 88.243185

COUNTY Will

API 121972790900

6 - 33N - 9E



ILLINOIS STATE GEOLOGICAL SURVEY

| Water Well | Top | Bottom |
|---------------------------------------|-------------|--------|
| clay | 0 | 15 |
| limestone | 15 | 60 |
| broken shale | 60 | 75 |
| hard shale | 75 | 90 |
| broken limestone | 90 | 165 |
| limestone | 165 | 175 |
| Total Depth | | 175 |
| Water from limestone at 165' to 175'. | | |
| Driller's Log filed | | |
| Permit Date: | Permit #: 0 | |

COMPANY Fykes Charles & Pump

FARM Kavdac James L

DATE DRILLED October 1, 1975

NO. 1

ELEVATION 0

COUNTY NO. 27922

LOCATION NW NW NW

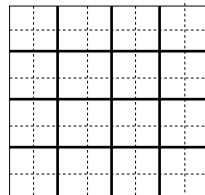
LATITUDE 41.346815

LONGITUDE - 88.190166

COUNTY Will

API 121972792200

15 - 33N - 9E



| Water Well | Top | Bottom |
|--------------------------------------|-------------|--------|
| gravel | 0 | 3 |
| limestone | 3 | 60 |
| shale | 60 | 85 |
| limestone | 85 | 105 |
| Total Depth | | 105 |
| Water from limestone at 85' to 105'. | | |
| Driller's Log filed | | |
| Permit Date: | Permit #: 0 | |

COMPANY Fykes Charles & Pump

FARM Lapaso Jim

DATE DRILLED July 1, 1978

NO. 1

ELEVATION 0

COUNTY NO. 27923

LOCATION SW SW NW

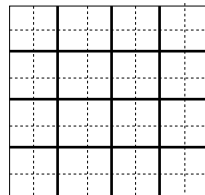
LATITUDE 41.341459

LONGITUDE - 88.190111

COUNTY Will

API 121972792300

15 - 33N - 9E



ILLINOIS STATE GEOLOGICAL SURVEY

| Water Well | Top | Bottom |
|--------------------|-----|--------|
| clay | 0 | 15 |
| gravel | 15 | 25 |
| clay | 25 | 30 |
| gravel | 30 | 45 |
| limestone | 45 | 50 |
| shale | 50 | 90 |
| broken formation | 90 | 95 |
| limestone | 95 | 420 |
| Total Depth | | 420 |

Water from limestone at 95' to 420'.

Driller's Log filed

Permit Date:

Permit #: 0

COMPANY Fykes Charles & Pump

FARM Tri-County Well

DATE DRILLED November 1, 1980

NO. 1

ELEVATION 0

COUNTY NO. 28238

LOCATION SW SW SE

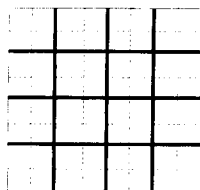
LATITUDE 41.348084

LONGITUDE - 88.218736

COUNTY Will

API 121972823800

8 - 33N - 9E



ILLINOIS STATE GEOLOGICAL SURVEY

| Private Water Well | Top | Bottom |
|--------------------|-----|--------|
| clay | 0 | 10 |
| sand & gravel | 10 | 20 |
| clay | 20 | 40 |
| limestone | 40 | 100 |
| shale rock | 100 | 160 |
| limestone | 160 | 380 |
| Total Depth | | 380 |

Casing: 5" BLACK STEEL from 0' to 42'

Grout: CUTTINGS from 0 to 42.

Size hole below casing: 5"

Water from limestone at 0' to 0'.

Static level 240' below casing top which is 1' above GL

Pumping level 340' when pumping at 10 gpm for 4 hours

Permanent pump installed at 340' on , with a capacity of 10 gpm

Location source: Field verified

Permit Date: March 22, 1985

Permit #: 116918

COMPANY Rob, Ronald Gene

FARM Roak, Lorraine

DATE DRILLED March 23, 1985

NO.

ELEVATION 505GL

COUNTY NO. 28332

LOCATION 2400'N line, 1150'E line of section

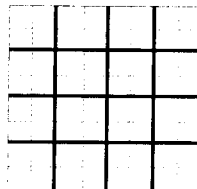
LATITUDE 41.355219

LONGITUDE - 88.233911

COUNTY Will

API 121972833200

7 - 33N - 9E



ILLINOIS STATE GEOLOGICAL SURVEY

| Private Water Well | Top | Bottom |
|--------------------|-----|--------|
| clay | 0 | 30 |
| shale | 30 | 70 |
| shale & limestone | 70 | 110 |
| limestone | 110 | 150 |
| shale | 150 | 210 |
| limestone | 210 | 305 |
| Total Depth | | 305 |

Casing: 5" A-53 15 LBS. from 0' to 74'

Size hole below casing: 5"

Water from limestone at 210' to 305'.

Static level 175' below casing top which is 1' above GL

Pumping level 225' when pumping at 12 gpm for 1 hour

Permanent pump installed at 200' on May 1, 1985, with a capacity of
12 gpm

Location source: Field verified

Permit Date: May 1, 1985

Permit #: 117555

COMPANY Fykes, Charles N.

FARM Hibler, Bob

DATE DRILLED May 1, 1985

NO. 1

ELEVATION 505GL

COUNTY NO. 28375

LOCATION 1840'N line, 1900'W line of section

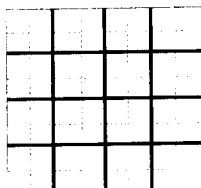
LATITUDE 41.356939

LONGITUDE - 88.222885

COUNTY Will

API 121972837500

8 - 33N - 9E



| Private Water Well | Top | Bottom |
|--------------------|-----|--------|
| top soil (sandy) | 0 | 6 |
| gravel | 6 | 12 |
| boulders | 12 | 14 |
| sand & gravel | 14 | 35 |
| clay (gray) | 35 | 40 |
| stone (dark gray) | 40 | 85 |
| limestone | 85 | 213 |
| Total Depth | | 213 |

Casing: 5" GALV. STEEL 15 LB/FT from 0' to 45'

Grout: PDLD CL & DRL from 0 to 45.

Size hole below casing: 5"

Water from limestone at 0' to 213'.

Static level 96' below casing top which is 1' above GL

Pumping level 213' when pumping at 5 gpm for 1 hour

Permanent pump installed at 200' on May 28, 1985, with a capacity of 10 gpm

Additional Lot #7, Readman Farm subdivision.
location info:

Location source: Field verified

Permit Date: May 24, 1985

Permit #: 118022

COMPANY Dreher, Theodore Albert

FARM Patterson, Robert E.

DATE DRILLED May 28, 1985

NO.

ELEVATION 520GL

COUNTY NO. 28396

LOCATION 1300'N line, 800'W line of section

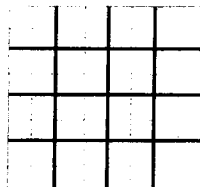
LATITUDE 41.329879

LONGITUDE - 88.188108

COUNTY Will

API 121972839600

22 - 33N - 9E



ILLINOIS STATE GEOLOGICAL SURVEY

| Private Water Well | Top | Bottom |
|---|-----|--------|
| surface | 0 | 2 |
| clay | 2 | 18 |
| sand & gravel | 18 | 20 |
| shale | 20 | 92 |
| limestone | 92 | 130 |
| dark shale | 130 | 565 |
| Total Depth | | 565 |
| Casing: 5" BLACK STEEL from 0' to 92' | | |
| Grout: CUTTINGS from 0 to 92. | | |
| Size hole below casing: 5" | | |
| Water from dark shale at 0' to 0'. | | |
| Static level 320' below casing top which is 1' above GL | | |
| Pumping level 360' when pumping at 10 gpm for 4 hours | | |
| Permanent pump installed at 360' on , with a capacity of 10 gpm | | |
| Location source: Field verified | | |
| Permit Date: May 13, 1986 | | |
| Permit #: 123720 | | |

COMPANY Rob, Ronald Gene

FARM Spencer, Florence

DATE DRILLED May 13, 1986

NO.

ELEVATION 520GL

COUNTY NO. 28844

LOCATION 2550'N line, 1200'W line of section

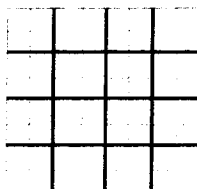
LATITUDE 41.326466

LONGITUDE - 88.186407

COUNTY Will

API 121972884400

22 - 33N - 9E



Private Water Well

| | Top | Bottom |
|----------------------|-----|--------|
| clay | 0 | 5 |
| boulders, sand & gvl | 5 | 30 |
| shale | 30 | 85 |
| sand & limestone | 85 | 170 |
| shale | 170 | 210 |
| limestone | 210 | 590 |
| St. Peters sand | 590 | 620 |
| Total Depth | | 620 |

Casing: 5" A-53 15 LBS. from 0' to 63'

Size hole below casing: 5"

Water from St. Peters sand at 590' to 620'.

Static level 285' below casing top which is 1' above GL

Pumping level 320' when pumping at 12 gpm for 1 hour

Permanent pump installed at 300' on August 22, 1985, with a
capacity of 12 gpm

Additional Lot , subdivision.
location info: Redman-River lots

Location source: Field verified

Permit Date: July 3, 1985

Permit #: 118812

COMPANY Pykes, Charles N.

FARM DeBretto, Joe

DATE DRILLED August 10, 1985

NO. 1

ELEVATION 525GL

COUNTY NO. 28445

LOCATION 2200'N line, 950'W line of section

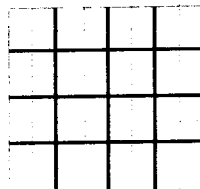
LATITUDE 41.327411

LONGITUDE - 88.187387

COUNTY Will

API 121972844500

22 - 33N - 9E



ILLINOIS STATE GEOLOGICAL SURVEY

Private Water Well

| | Top | Bottom |
|----------------------|-----|--------|
| top soil | 0 | 4 |
| clay & gravel | 4 | 9 |
| sandy clay | 9 | 13 |
| hardpan | 13 | 31 |
| limestone (wh & gry) | 31 | 52 |
| shale | 52 | 130 |
| limestone tan & wh | 130 | 180 |
| Total Depth | | 180 |

Casing: 5" GALV. STEEL 15 LB/FT from 0' to 32'

Grout: PDLD CL & DRL from 0 to 32.

Size hole below casing: 5"

Water from limestone at 0' to 180'.

Static level 25' below casing top which is 1' above GL

Pumping level 45' when pumping at 12 gpm for 1 hour

Permanent pump installed at 100' on September 25, 1986, with a capacity of 10 gpm

Location source: Field verified

Permit Date: September 12, 1986

Permit #: 126798

COMPANY Dreher, Theodore Albert

FARM Buck, Joan

DATE DRILLED September 22, 1986

NO.

ELEVATION 532GL

COUNTY NO. 29116

LOCATION 800'S line, 2850'W line of section

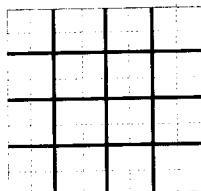
LATITUDE 41.349671

LONGITUDE - 88.200267

COUNTY Will

API 121972911600

9 - 33N - 9E



ILLINOIS STATE GEOLOGICAL SURVEY

| Private Water Well | Top | Bottom |
|--------------------|-----|--------|
| top soil | 0 | 3 |
| gravel & sand | 3 | 19 |
| limestone | 19 | 70 |
| shale | 70 | 275 |
| limestone | 275 | 600 |
| St. Peter sand | 600 | 645 |
| Total Depth | | 645 |

Casing: 5" A-53 15# from 0' to 275'

Size hole below casing: 5"

Water from St. Peter sandstone at 600' to 645'.

Static level 220' below casing top which is 1' above GL

Pumping level 320' when pumping at 20 gpm for 1 hour

Permanent pump installed at 336' on June 9, 1988, with a capacity
of 17 gpm

Address of well: Cottage Road
Wilmington, IL

Location source: Location from permit

Permit Date: April 15, 1988

Permit #: 001207

COMPANY Fykes, Charles N.

FARM Sievers, Douglas Const.

DATE DRILLED April 25, 1988

NO. 1

ELEVATION 0

COUNTY NO. 30362

LOCATION SW SW NW

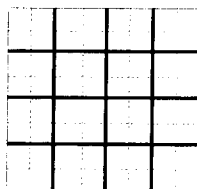
LATITUDE 41.355617

LONGITUDE - 88.209801

COUNTY Will

API 121973036200

9 - 33N - 9E



ILLINOIS STATE GEOLOGICAL SURVEY

| Private Water Well | Top | Bottom |
|--------------------|-----|--------|
| top soil | 0 | 4 |
| sand & gravel | 4 | 53 |
| limestone | 53 | 118 |
| shale | 118 | 195 |
| stone | 195 | 340 |
| Total Depth | | 340 |

Casing: 5" BLACK STEEL 15 LB/FT from 0' to 54'

Grout: C/S & DRILLINGS from 0 to 54.

Size hole below casing: 5"

Water from limestone at 310' to 340'.

Static level 234' below casing top which is 1' above GL

Pumping level 280' when pumping at 10 gpm for 1 hour

Permanent pump installed at 300' on December 12, 1981, with a
capacity of 1 gpm

Location source: Field verified

Permit Date: November 30, 1981

Permit #: 102282

COMPANY Dreher, Theodore Albert

FARM Fornelli, Colo

DATE DRILLED December 10, 1981

NO.

ELEVATION 530GL

COUNTY NO. 31229

LOCATION 50'S line, 1000'E line of section

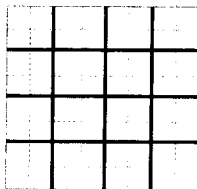
LATITUDE 41.347330

LONGITUDE - 88.214224

COUNTY Will

API 121973122900

8 - 33N - 9E



| Private Water Well | Top | Bottom |
|---|-------------------------|--------|
| top soil | 0 | 2 |
| clay | 2 | 18 |
| clay & gravel | 18 | 57 |
| brown limestone | 57 | 110 |
| Total Depth | | 110 |
| Casing: 5" A-53 15 LBS from 0' to 57' | | |
| Size hole below casing: 5" | | |
| Water from limestone at 57' to 110'. | | |
| Static level 30' below casing top which is 1' above GL | | |
| Pumping level 40' when pumping at 8 gpm for 1 hour | | |
| Permanent pump installed at 40' on June 24, 1981, with a capacity of 10 gpm | | |
| Address of well: Kankakee River & Lorenzo Road | | |
| Location source: Field verified | | |
| Permit Date: June 15, 1981 | Permit #: 100124 | |

COMPANY Fykes, Charles N.

FARM Jadron, Tony

DATE DRILLED June 22, 1981

NO. 1

ELEVATION 525GL

COUNTY NO. 31230

LOCATION 1300'S line, 1200'W line of section

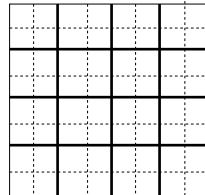
LATITUDE 41.337067

LONGITUDE - 88.186928

COUNTY Will

API 121973123000

15 - 33N - 9E



ILLINOIS STATE GEOLOGICAL SURVEY

| Private Water Well | Top | Bottom |
|--------------------|-----|--------|
| clay | 0 | 6 |
| shale | 6 | 51 |
| limestone | 51 | 95 |
| hard shale | 95 | 170 |
| limestone & shale | 170 | 300 |
| Total Depth | | 300 |

Casing: 5" A-53 15# from 0' to 53'

Grout: CEMENT from 0 to 53.

Size hole below casing: 5"

Water from limestone at 51' to 300'.

Static level 205' below casing top which is 1' above GL

Pumping level 280' when pumping at 0 gpm for 1 hour

Permanent pump installed at 280' on September 19, 1992, with a
capacity of 12 gpm

Address of well: 26030 Willow Ln.
Wilmington, IL

Location source: Location from permit

Permit Date: September 16, 1992

Permit #:

COMPANY Fykes, Charles N.

FARM Stevens, Rick

DATE DRILLED September 17, 1992

NO. 2

ELEVATION 0

COUNTY NO. 34472

LOCATION NW NE SW

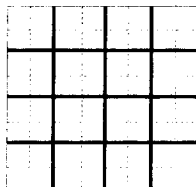
LATITUDE 41.367803

LONGITUDE - 88.243489

COUNTY Will

API 121973447200

6 - 33N - 9E



ILLINOIS STATE GEOLOGICAL SURVEY

Private Water Well

| | Top | Bottom |
|--------------------|-----|--------|
| soil | 0 | 3 |
| clay | 3 | 10 |
| blue shale | 10 | 24 |
| gray clay | 24 | 53 |
| solorium | 53 | 74 |
| Total Depth | | 74 |

Casing: 5" PVC SDR 21 from 0' to 172'

Permanent pump installed at 320' on August 9, 1992, with a capacity
of 10 gpm

Address of well: 26062 Muskie Lane
Wilmington, IL

Location source: Location from permit

Permit Date: June 26, 1992

Permit #:

COMPANY Wills, Elmer

FARM Gualdoni, Catherine&Josephine

DATE DRILLED August 7, 1992

NO.

ELEVATION 0

COUNTY NO. 34899

LOCATION SW

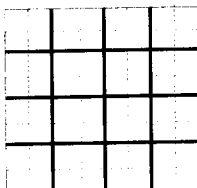
LATITUDE 41.365078

LONGITUDE - 88.244520

COUNTY Will

API 121973489900

6 - 33N - 9E



ILLINOIS STATE GEOLOGICAL SURVEY

| Private Water Well | Top | Bottom |
|--|-----|--------|
| sand | 0 | 20 |
| gravel | 20 | 30 |
| limestone with shale streaks | 30 | 45 |
| limestone | 45 | 160 |
| hard black shale | 160 | 250 |
| brown limestone | 250 | 520 |
| sandstone | 520 | 545 |
| Total Depth | | 545 |
| Casing: 5" A-53 15# from 0' to 45' | | |
| Grout: CEMENT from -5 to 45. | | |
| Size hole below casing: 5" | | |
| Water from sandstone at 520' to 545'. | | |
| Static level 100' below casing top which is 1' above GL | | |
| Pumping level 260' when pumping at 0 gpm for 1 hour | | |
| Permanent pump installed at 320' on February 3, 1994, with a capacity of 12 gpm | | |
| Address of well: 25618 Cottage Dr. Wilmington, IL | | |
| Location source: Location from permit | | |
| Permit Date: September 22, 1993 | | |
| Permit #: | | |

COMPANY Fykes, Charles N.

FARM Grskovic, Gary & Kim

DATE DRILLED February 3, 1994

NO.

ELEVATION 0

COUNTY NO. 35954

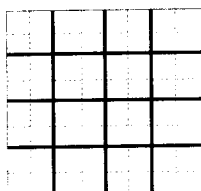
LOCATION SW SE NE

LATITUDE 41.355342

LONGITUDE - 88.233313

COUNTY Will

API 121973595400



7 - 33N - 9E

ILLINOIS STATE GEOLOGICAL SURVEY

| Private Water Well | Top | Bottom |
|------------------------|-----|--------|
| brown clay | 0 | 20 |
| shale | 20 | 40 |
| brown & gray limestone | 40 | 80 |
| hard black shale | 80 | 100 |
| Total Depth | | 100 |

Casing: 5" A53 15# from 0' to 40'

Grout: CLAY SLRY/CTGS from 0 to 40.

Size hole below casing: 5"

Water from limestone at 40' to 100'.

Static level 5' below casing top which is 1' above GL

Pumping level 60' when pumping at 0 gpm for 1 hour

Additional Lot #45, Phelan Acres subdivision.
location info:

Address of well: 28308 Fir Lane
Wilmington, IL

Location source: Location from permit

Permit Date: November 16, 1994

Permit #:

COMPANY Fykes, Charles N.

FARM House of Radiators

DATE DRILLED February 2, 1995

NO.

ELEVATION 0

COUNTY NO. 36613

LOCATION NW NE SW

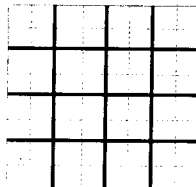
LATITUDE 41.367803

LONGITUDE - 88.243489

COUNTY Will

API 121973661300

6 - 33N - 9E



ILLINOIS STATE GEOLOGICAL SURVEY

Private Water Well

Top

Bottom

| | | |
|--------------------|-----|------------|
| sand | 0 | 20 |
| soft gray shale | 20 | 88 |
| brown limestone | 88 | 115 |
| hard black shale | 115 | 195 |
| brown limestone | 195 | 445 |
| Total Depth | | 445 |

Casing: 5" A-53 15# from 0' to 88'

Grout: BENTONITE from 0 to 88.

Size hole below casing: 5"

Water from limestone at 88' to 445'.

Static level 120' below casing top which is 1' above GL

Pumping level 360' when pumping at 0 gpm for 1 hour

Permanent pump installed at 360' on April 24, 1995, with a capacity
of 12 gpm

Location source: Location from permit

Permit Date: April 11, 1995

Permit #:

COMPANY Matherly, Hubert

FARM Novak, Charles

DATE DRILLED April 21, 1995

NO.

ELEVATION 0

COUNTY NO. 36689

LOCATION SE SE NW

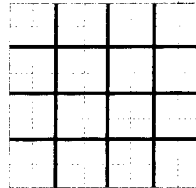
LATITUDE 41.355150

LONGITUDE - 88.240489

COUNTY Will

API 121973668900

7 - 33N - 9E



ILLINOIS STATE GEOLOGICAL SURVEY

| Private Water Well | Top | Bottom |
|--|-----------|--------|
| brown clay | 0 | 10 |
| brown sandstone & shale | 10 | 63 |
| brownish red sandstone | 63 | 110 |
| medium hard gray shale | 110 | 165 |
| Total Depth | | 165 |
| Casing: 5" A-53 15# from 0' to 63' | | |
| Grout: BENTONITE from 0 to 63. | | |
| Size hole below casing: 5" | | |
| Water from shale at 63' to 165'. | | |
| Static level 20' below casing top which is 1' above GL | | |
| Pumping level 80' when pumping at 0 gpm for 1 hour | | |
| Permanent pump installed at 100' on June 30, 1995, with a capacity of 12 gpm | | |
| Additional Lot #6, Phelans Acres subdivision. | | |
| location info: | | |
| Location source: Location from permit | | |
| Permit Date: June 28, 1995 | Permit #: | |

COMPANY Fykes, Charles N.

FARM Bradley, Pat

DATE DRILLED June 28, 1995

NO.

ELEVATION 0

COUNTY NO. 36795

LOCATION NW NE SW

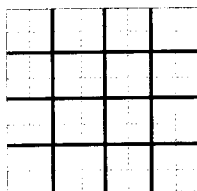
LATITUDE 41.367803

LONGITUDE - 88.243489

COUNTY Will

API 121973679500

6 - 33N - 9E



ILLINOIS STATE GEOLOGICAL SURVEY

| Private Water Well | Top | Bottom |
|--|------------------|--------|
| soil | 0 | 2 |
| clay | 2 | 6 |
| red clay | 6 | 7 |
| gray clay | 7 | 11 |
| sand | 11 | 16 |
| gray clay | 16 | 31 |
| soft clay & shale | 31 | 33 |
| gray clay | 33 | 40 |
| shale | 40 | 49 |
| solorium | 49 | 70 |
| white limestone | 70 | 98 |
| Total Depth | | 98 |
| Casing: 6" SDR 21 from 0' to 49' | | |
| Grout: BENTONITE CTGS from 0 to 49. | | |
| Size hole below casing: 6" | | |
| Static level 14' below casing top which is 1' above GL | | |
| Pumping level 68' when pumping at 0 gpm for 1 hour | | |
| Permanent pump installed at 80' on July 20, 1995, with a capacity of 7 gpm | | |
| Location source: Location from permit | | |
| Permit Date: July 13, 1995 | Permit #: | |

COMPANY Wills, Elmer D.

FARM Tadej, Robert E.

DATE DRILLED July 15, 1995

ELEVATION 0

LOCATION W2 NE

LATITUDE 41.343282

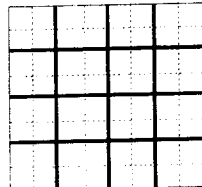
COUNTY Will

NO.

COUNTY NO. 36875

LONGITUDE - 88.236372

API 121973687500



18 - 33N - 9E

ILLINOIS STATE GEOLOGICAL SURVEY

| Private Water Well | Top | Bottom |
|--|-----------|--------|
| sandy soil | 0 | 5 |
| sand | 5 | 14 |
| shale | 14 | 43 |
| shale & lime | 43 | 61 |
| sandy shale | 61 | 75 |
| lime & shale | 75 | 114 |
| white lime | 114 | 132 |
| lime & shale | 132 | 146 |
| gummy shale | 146 | 156 |
| Total Depth | | 156 |
| Casing: 6" STEEL SCH 40 ASA-53 from -2' to 48' | | |
| 5" PLASTIC SCH 40 LINER from 38' to 116' | | |
| " SLOTTED from 116' to 156' | | |
| Screen: 40' of 5" diameter slot | | |
| Size hole below casing: 5.87" | | |
| Water from limestone at 61' to 143'. | | |
| Static level 90' below casing top which is 2' above GL | | |
| Pumping level 130' when pumping at 0 gpm for 1 hour | | |
| Permanent pump installed at 150' on June 8, 1996, with a capacity of 8 gpm | | |
| Address of well: 30478 W. Frontage | | |
| Location source: Location from permit | | |
| Permit Date: June 2, 1995 | Permit #: | |

COMPANY Huskisson, Robert

FARM Hamilton, Ron #2

DATE DRILLED May 19, 1996

NO.

ELEVATION 0

COUNTY NO. 37132

LOCATION NE SE

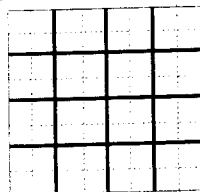
LATITUDE 41.324194

LONGITUDE - 88.193031

COUNTY Will

API 121973713200

21 - 33N - 9E



ILLINOIS STATE GEOLOGICAL SURVEY

| Private Water Well | Top | Bottom |
|--------------------|-----|--------|
| soil | 0 | 4 |
| yellow clay | 4 | 6 |
| sand & gravel | 6 | 7 |
| gray clay | 7 | 11 |
| blue clay | 11 | 18 |
| blue shale | 18 | 58 |
| Silurian | 58 | 100 |
| Cahokia | 100 | 176 |
| Trenton lime | 176 | 420 |
| Total Depth | | 420 |

Casing: 6" SDR 21 from 0' to 55'

Grout: BENSEAL from 0 to 55.

Size hole below casing: 5"

Water from rock at 96' to 420'.

Static level 206' below casing top which is 1' above GL

Pumping level 255' when pumping at 10 gpm for 1 hour

Permanent pump installed at 300' on May 24, 1996, with a capacity
of 10 gpm

Address of well: 26056 Marlin Ct.
Wilmington, IL

Location source: Location from permit

Permit Date: August 31, 1995

Permit #:

COMPANY Wills, Elmer

FARM Rittoff, Leonard

DATE DRILLED May 20, 1996

NO.

ELEVATION 0

COUNTY NO. 37160

LOCATION SE SW

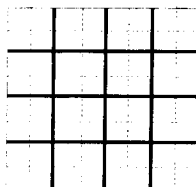
LATITUDE 41.363370

LONGITUDE - 88.242051

COUNTY Will

API 121973716000

6 - 33N - 9E



ILLINOIS STATE GEOLOGICAL SURVEY

| Private Water Well | Top | Bottom |
|--|-----|--------|
| clay | 0 | 13 |
| gravel | 13 | 14 |
| dolomite | 14 | 33 |
| blue rock | 33 | 41 |
| shale | 41 | 120 |
| Silurian | 120 | 172 |
| Maquoketa shale | 172 | 180 |
| Total Depth | | 180 |
| Casing: 6" SDR 21 from 0' to 40' | | |
| 5" LINER from 40' to 180' | | |
| Grout: BENSEAL from 0 to 40. | | |
| Size hole below casing: 6" | | |
| Water from blue rock & Silurian at 40' to 180'. | | |
| Static level 12' below casing top which is 1' above GL | | |
| Pumping level 140' when pumping at 0 gpm for 4 hours | | |
| Permanent pump installed at 140' on June 28, 1997, with a capacity of 10 gpm | | |
| Additional Lot #12, Kinney subdivision. | | |
| location info: | | |
| Address of well: same as above | | |
| Location source: Location from permit | | |
| Permit Date: June 16, 1997 | | |
| Permit #: | | |

COMPANY Wills, Elmer

FARM Reiter, Richard

DATE DRILLED June 26, 1997

NO.

ELEVATION 0

COUNTY NO. 37497

LOCATION NW SE NE

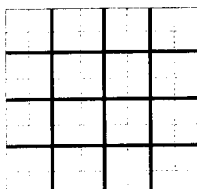
LATITUDE 41.357425

LONGITUDE - 88.214612

COUNTY Will

API 121973749700

8 - 33N - 9E



ILLINOIS STATE GEOLOGICAL SURVEY

| Private Water Well | Top | Bottom |
|--|-----|--------|
| clay - rocks | 0 | 5 |
| clay | 5 | 15 |
| sand | 15 | 25 |
| clay | 25 | 60 |
| shale - limestone streaks | 60 | 70 |
| limestone | 70 | 100 |
| shale | 100 | 178 |
| limestone | 178 | 545 |
| sandstone | 545 | 580 |
| Total Depth | | 580 |
| Casing: 5" PVC SDR 21 #200 from 1' to 250' | | |
| 5" PVC SDR 17 #250 from 250' to 545' | | |
| Grout: BENTONITE from 0 to 545. | | |
| Size hole below casing: 4.75" | | |
| Water from sandstone at 545' to 580'. | | |
| Static level 30' below casing top which is 1' above GL | | |
| Pumping level 340' when pumping at 0 gpm for 2 hours | | |
| Permanent pump installed at 360' on September 13, 1997, with a | | |
| capacity of 10 gpm | | |
| Additional Lot , subdivision. | | |
| location info: | | |
| Address of well: 25255 W. Lorenzo Rd. | | |
| Wilmington, IL | | |
| Location source: Location from permit | | |
| Permit Date: June 27, 1997 | | |
| Permit #: 197-97- | | |

COMPANY Strange, Robert E.

FARM Giertuga, Jim

DATE DRILLED September 8, 1997

NO.

ELEVATION 0

COUNTY NO. 37529

LOCATION NE NE NW

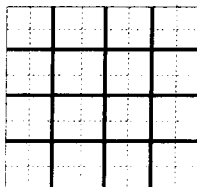
LATITUDE 41.346230

LONGITUDE - 88.220988

COUNTY Will

API 121973752900

17 - 33N - 9E



ILLINOIS STATE GEOLOGICAL SURVEY

| Private Water Well | Top | Bottom |
|--|-----|--------|
| soil | 0 | 1 |
| brown clay | 1 | 3 |
| green clay | 3 | 10 |
| blue clay | 10 | 26 |
| gray clay | 26 | 60 |
| Silurian | 60 | 100 |
| Maquoketa shale | 100 | 180 |
| Trenton | 180 | 340 |
| Total Depth | | 340 |
| Casing: 6" SDR 21 from 0' to 63' | | |
| Grout: BENSEAL from 0 to 63. | | |
| Size hole below casing: 6" | | |
| Water from Silurian at 63' to 340'. | | |
| Static level 200' below casing top which is 2' above GL | | |
| Pumping level 300' when pumping at 0 gpm for 1 hour | | |
| Permanent pump installed at 300' on February 4, 1998, with a capacity of 10 gpm | | |
| Additional Lot , Phelans Acres Condos subdivision. | | |
| location info: Tax #17-06-303-001-1057 | | |
| Address of well: Bluefin Lane | | |
| Wilmington, IL | | |
| Location source: Location from permit | | |
| Permit Date: July 14, 1997 | | |
| Permit #: | | |

COMPANY Wills, William D.

FARM Cambruzzi, Joyce & Ra

DATE DRILLED February 3, 1998

NO. 1

ELEVATION 0

COUNTY NO. 37939

LOCATION SW SW SE

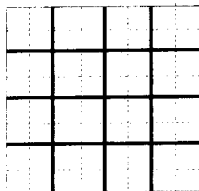
LATITUDE 41.362591

LONGITUDE - 88.238471

COUNTY Will

API 121973793900

6 - 33N - 9E



| Private Water Well | Top | Bottom |
|--|-----|--------|
| topsoil | 0 | 2 |
| sand gravel | 2 | 18 |
| clay | 18 | 46 |
| shale | 46 | 206 |
| rock | 206 | 580 |
| sandstone | 580 | 600 |
| Total Depth | | 600 |
| Casing: 6" BLACK STEEL from -1' to 84' | | |
| 4.5" PVC LINER from 40' to 209' | | |
| Grout: BENTONITE from 0 to 84. | | |
| Size hole below casing: 4.75" | | |
| Water from sandstone at 580' to 600'. | | |
| Static level 200' below casing top which is 1' above GL | | |
| Pumping level 399' when pumping at 0 gpm for 4 hours | | |
| Permanent pump installed at 399' on December 1, 1998, with a | | |
| capacity of 12 gpm | | |
| Additional Lot , subdivision. | | |
| location info: | | |
| Address of well: same as above | | |
| Location source: Location from permit | | |
| Permit Date: November 18, 1998 | | |
| Permit #: 197-98- | | |

COMPANY Walters, Larry

FARM Kavanaugh, Judy

DATE DRILLED November 23, 1998

NO.

ELEVATION 0

COUNTY NO. 38148

LOCATION NE NW SW

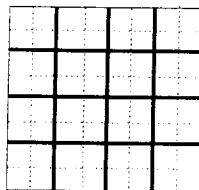
LATITUDE 41.324783

LONGITUDE - 88.206277

COUNTY Will

API 121973814800

21 - 33N - 9E



ILLINOIS STATE GEOLOGICAL SURVEY

| Private Water Well | Top | Bottom |
|---|-------------------|--------|
| black dirt | 0 | 2 |
| dirt with rocks | 2 | 5 |
| gravel | 5 | 12 |
| clay | 12 | 25 |
| sand & gravel | 25 | 40 |
| clay | 40 | 55 |
| shale with limestone streaks | 55 | 72 |
| limestone | 72 | 120 |
| shale | 120 | 196 |
| limestone | 196 | 565 |
| sandstone | 565 | 600 |
| Total Depth | | 600 |
| Casing: 5" PVC SDR 21 200 PSI from -1' to 159' | | |
| 5" PVC SDR 17 250 PSI from 159' to 199' | | |
| Grout: BENTONITE from 0 to 199. | | |
| Water from sandstone at 565' to 600'. | | |
| Static level 200' below casing top which is 1' above GL | | |
| Pumping level 300' when pumping at 25 gpm for 2 hours | | |
| Additional Lot , subdivision. | | |
| location info: | | |
| Address of well: same as above | | |
| Location source: Location from permit | | |
| Permit Date: October 27, 1998 | Permit #: 197-98- | |

COMPANY Strange, Robert E.

FARM Onderisin, Alan

DATE DRILLED November 7, 1998

NO.

ELEVATION 0

COUNTY NO. 38149

LOCATION SW NW SW

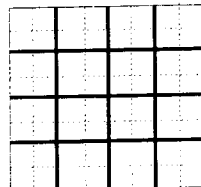
LATITUDE 41.337346

LONGITUDE - 88.209219

COUNTY Will

API 121973814900

16 - 33N - 9E



ILLINOIS STATE GEOLOGICAL SURVEY

| Private Water Well | Top | Bottom |
|--------------------|-----|--------|
| clay | 0 | 8 |
| shale | 8 | 60 |
| limestone | 60 | 95 |
| shale, limestone | 95 | 175 |
| limestone | 175 | 218 |
| broken rock cavern | 218 | 220 |
| limestone | 220 | 300 |
| Total Depth | | 300 |

Casing: 5" PVC SDR 21 200 PSI from -1' to 63'

Grout: BENTONITE from 0 to 63.

Water from limestone at 63' to 300'.

Static level 140' below casing top which is 1' above GL

Pumping level 0' when pumping at 20 gpm for 2 hours

Additional Lot 128, Phelan Acres subdivision.
location info:

Address of well: 26040 Muskie Lane
Wilmington, IL

Location source: Location from permit

Permit Date: August 31, 1998

Permit #: 197-98-

COMPANY Strange, Robert E.

FARM Kapinus, Don

DATE DRILLED August 21, 1998

NO.

ELEVATION 0

COUNTY NO. 38213

LOCATION NE SE SW

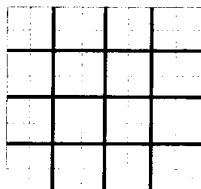
LATITUDE 41.364307

LONGITUDE - 88.240921

COUNTY Will

API 121973821300

6 - 33N - 9E



ILLINOIS STATE GEOLOGICAL SURVEY

| Private Water Well | Top | Bottom |
|--------------------|-----|--------|
| sand | 0 | 16 |
| shale | 16 | 33 |
| soft limestone | 33 | 110 |
| Total Depth | | 110 |

Casing: 5" STEEL from 0' to 43'

Grout: BENTONITE from 0 to 110.

Water from limestone at 10' to 110'.

Static level 10' below casing top which is 1' above GL

Pumping level 80' when pumping at 0 gpm for 2 hours

Permanent pump installed at 80' on April 8, 1999, with a capacity
of 12 gpm

Additional Lot 15, J.O'Brien Riverview subdivision.
location info: Tax#17-07-201-001

Address of well: 25960 N Cottage Rd.
Wilmington, IL

Location source: Location from permit

Permit Date: March 29, 1999

Permit #: 197-99-

COMPANY Bisping, Calvin

FARM Hoffman, William J.

DATE DRILLED April 7, 1999

NO.

ELEVATION 0

COUNTY NO. 38376

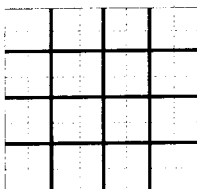
LOCATION NW SW NE

LATITUDE 41.357064

LONGITUDE - 88.238189

COUNTY Will

API 121973837600



7 - 33N - 9E

ILLINOIS STATE GEOLOGICAL SURVEY

| Private Water Well | Top | Bottom |
|---|-----------|--------|
| soil | 0 | 1 |
| sand | 1 | 12 |
| clay | 12 | 39 |
| shale | 39 | 41 |
| coal | 41 | 42 |
| fire clay | 42 | 45 |
| shale | 45 | 77 |
| sandrocks | 79 | 132 |
| Maquoketa shale | 132 | 156 |
| shale & limestone | 156 | 207 |
| Trenton | 207 | 574 |
| St. Peter | 574 | 600 |
| Total Depth | | 600 |
| Casing: 5" SDR 21 from 0' to 209' | | |
| Grout: BENSEAL from 0 to 209. | | |
| Size hole below casing: 5" | | |
| Water from St. Peter at 210' to 600'. | | |
| Static level 210' below casing top which is 1' above GL | | |
| Pumping level 340' when pumping at 0 gpm for 3 hours | | |
| Permanent pump installed at 340' on November 1, 1999, with a capacity of 10 gpm | | |
| Additional Lot parcel 1, subdivision. | | |
| location info: | | |
| Address of well: Kavanaugh Rd. | | |
| Wilmington, IL | | |
| Permit Date: June 28, 1999 | Permit #: | |

COMPANY Wills, William D.

FARM Dolasin, Ray

DATE DRILLED November 1, 1999

NO. 6

ELEVATION 0

COUNTY NO. 38443

LOCATION SW SW SW

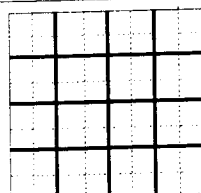
LATITUDE 41.319312

LONGITUDE - 88.208356

COUNTY Will

API 121973844300

21 - 33N - 9E



Location source: Location from permit

Wills, William D.

Dolasin, Ray 6

COUNTY Will

API 121973844300 21 - 33N - 9E

ILLINOIS STATE GEOLOGICAL SURVEY

| Private Water Well | Top | Bottom |
|---|-----|--------|
| clay | 0 | 60 |
| sand & gravel | 60 | 80 |
| limestone | 80 | 120 |
| shale | 120 | 175 |
| limestone | 175 | 520 |
| Total Depth | | 520 |
| Casing: 4" PLASTIC PVC SDR 40 from 70' to 220' | | |
| Grout: BENTONITE from 0 to 80. | | |
| Water from limestone at 500' to 520'. | | |
| Static level 240' below casing top which is 2' above GL | | |
| Pumping level 280' when pumping at 12 gpm for 2 hours | | |
| Additional Lot 4, subdivision. | | |
| location info: | | |
| Address of well: 3100 S. Kavanaugh | | |
| Wilmington, IL | | |
| Location source: Location from permit | | |
| Permit Date: October 22, 1999 | | |
| Permit #: | | |

COMPANY Edward Hall - Web Well & Pump

FARM Mathy, Michael

DATE DRILLED October 23, 1999

NO. 1

ELEVATION 0

COUNTY NO. 38718

LOCATION NW SW SW

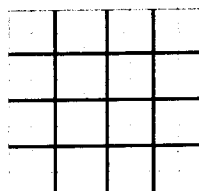
LATITUDE 41.321114

LONGITUDE - 88.208461

COUNTY Will

API 121973871800

21 - 33N - 9E



| Private Water Well | | Top | Bottom |
|---|--|-----|--------|
| sand | | 0 | 20 |
| clay mixed w/gravel | | 20 | 37 |
| green shale | | 37 | 77 |
| brown limestone | | 77 | 125 |
| black shale | | 125 | 205 |
| brown limestone | | 205 | 580 |
| St. Peter | | 580 | 625 |
| Total Depth | | | 625 |
| Casing: 6" A53 STEEL from -1' to 80' | | | |
| 4.50" CERTA LOK from 10' to 270' | | | |
| Grout: BENTONITE from 5 to 80. | | | |
| Water from St. Peter at 580' to 625'. | | | |
| Static level 120' below casing top which is 1' above GL | | | |
| Pumping level 380' when pumping at 25 gpm for 1 hour | | | |
| Permanent pump installed at 462' on May 22, 2000, with a capacity of 12 gpm | | | |
| Additional Lot 21, subdivision. | | | |
| location info: | | | |
| Address of well: Kavanaugh Road | | | |
| Wilmington, IL | | | |
| Location source: Location from permit | | | |
| Permit Date: November 22, 1999 | | | |
| Permit #: | | | |

COMPANY Fykes, Charles N.

FARM Nasadowski, Joe

DATE DRILLED February 2, 2000

NO.

ELEVATION 0

COUNTY NO. 38785

LOCATION NW NW SW

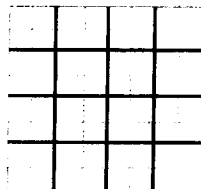
LATITUDE 41.324724

LONGITUDE - 88.208674

COUNTY Will

API 121973878500

21 - 33N - 9E



ILLINOIS STATE GEOLOGICAL SURVEY

| Private Water Well | Top | Bottom |
|---|-----|--------|
| sand | 0 | 6 |
| shale | 6 | 37 |
| sandstone | 37 | 47 |
| shale | 47 | 80 |
| sandstone | 80 | 125 |
| black shale | 125 | 210 |
| brown limestone | 210 | 580 |
| St. Peter sandstone | 580 | 605 |
| Total Depth | | 605 |
| Casing: 6" A53 STEEL from -1' to 41' | | |
| 4.50" CERTA LOK from 15' to 295' | | |
| Grout: BENTONITE from 5 to 41. | | |
| Water from St. Peter sandstone at 580' to 605'. | | |
| Static level 200' below casing top which is 1' above GL | | |
| Pumping level 320' when pumping at 25 gpm for 1 hour | | |
| Permanent pump installed at 462' on May 18, 2000, with a capacity | | |
| of 8 gpm | | |
| Additional Lot , subdivision. | | |
| location info: | | |
| Address of well: Redman Lane | | |
| Wilmington, IL | | |
| Location source: Location from permit | | |
| Permit Date: May 9, 2000 | | |
| Permit #: | | |

COMPANY Fykes, Charles N.

FARM Hinz, Joyce

DATE DRILLED May 11, 2000

NO.

ELEVATION 0

COUNTY NO. 38910

LOCATION NE NW NW

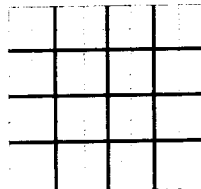
LATITUDE 41.332558

LONGITUDE - 88.187472

COUNTY Will

API 121973891000

22 - 33N - 9E



ILLINOIS STATE GEOLOGICAL SURVEY

| Private Water Well | Top | Bottom |
|---|-----------|--------|
| topsoil | 0 | 1 |
| sand & gravel | 1 | 14 |
| clay | 14 | 30 |
| shale | 30 | 63 |
| limestone | 63 | 126 |
| shale | 126 | 195 |
| limestone | 195 | 312 |
| Total Depth | | 312 |
| Casing: 4" PVC from 10' to 207' | | |
| Grout: MOUNDED BENT from 0 to 63. | | |
| Water from limestone at 220' to 0'. | | |
| Static level 180' below casing top which is 1' above GL | | |
| Pumping level 220' when pumping at 12 gpm for 2 hours | | |
| Permanent pump installed at 285' on August 29, 2000, with a capacity of 12 gpm | | |
| Additional Lot 12, subdivision. location info: | | |
| Address of well: 29709 S. Cooper Rd. Wilmington, IL | | |
| Location source: Location from permit | | |
| Permit Date: July 28, 2000 | Permit #: | |

COMPANY Edward Hall - Web Well & Pump

FARM Williams, Ronald

DATE DRILLED August 28, 2000

NO. 1

ELEVATION 0

COUNTY NO. 38915

LOCATION NW SW NW

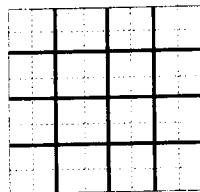
LATITUDE 41.342542

LONGITUDE - 88.227914

COUNTY Will

API 121973891500

17 - 33N - 9E



| Private Water Well | Top | Bottom |
|--|-----|--------|
| sand | 0 | 18 |
| shale | 18 | 53 |
| gray sandstone | 53 | 65 |
| shale | 65 | 110 |
| brown sandstone | 110 | 130 |
| shale | 130 | 200 |
| brown limestone | 200 | 575 |
| St. Peter | 575 | 605 |
| Total Depth | | 605 |
| Casing: 6" A53 STEEL from -1' to 55' | | |
| 4.50" CERTALOK from 10' to 250' | | |
| Grout: BENTONITE from 5 to 55. | | |
| Water from St. Peter at 250' to 605'. | | |
| Static level 360' below casing top which is 1' above GL | | |
| Pumping level 400' when pumping at 25 gpm for 1 hour | | |
| Permanent pump installed at 400' on June 30, 2000, with a capacity of 20 gpm | | |
| Additional Lot , subdivision. | | |
| location info: | | |
| Address of well: 23624 S. River Rd. | | |
| Wilmington, IL | | |
| Location source: Location from permit | | |
| Permit Date: May 24, 2000 | | |
| Permit #: | | |

COMPANY Matherly, Hubert

FARM Smrekar, Robert F.

DATE DRILLED May 31, 2000

NO.

ELEVATION 0

COUNTY NO. 38918

LOCATION NW NW SE

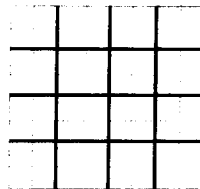
LATITUDE 41.325405

LONGITUDE - 88.179660

COUNTY Will

API 121973891800

22 - 33N - 9E



ILLINOIS STATE GEOLOGICAL SURVEY

| Private Water Well | Top | Bottom |
|--------------------|-----|--------|
| sand/gravel | 0 | 15 |
| clay | 15 | 50 |
| shale/rock streaks | 50 | 80 |
| limestone | 80 | 130 |
| shale | 130 | 207 |
| limestone | 207 | 575 |
| sandstone | 575 | 600 |
| Total Depth | | 600 |

Casing: 5" PVC SDR 21 #200 from 1' to 150'
 5" PVC SDR 17 #250 from 150' to 210'

Grout: ENVIROPLUG from 0 to 210.

Water from sandstone at 575' to 600'.

Static level 200' below casing top which is 1' above GL

Pumping level 200' when pumping at 25 gpm for 2 hours

Additional Lot 5, subdivision.

location info:

Address of well: same as above

Location source: Location from permit

Permit Date: November 27, 2000

Permit #:

COMPANY Sharpe, Franklin N.

FARM Landmichl, David J.

DATE DRILLED March 23, 2001

NO.

ELEVATION 0

COUNTY NO. 39297

LOCATION SW NW SW

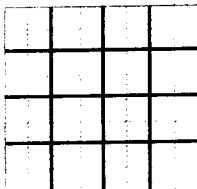
LATITUDE 41.322919

LONGITUDE - 88.208569

COUNTY Will

API 121973929700

21 - 33N - 9E



ILLINOIS STATE GEOLOGICAL SURVEY

| Private Water Well | Top | Bottom |
|---------------------------------------|-----------|--------|
| topsoil - sand | 0 | 2 |
| clay | 2 | 50 |
| limestone | 50 | 200 |
| Total Depth | | 200 |
| Casing: 6" STEEL from 2' to 53' | | |
| Grout: BENTONITE from 0 to 53. | | |
| Water from dry hole at 0' to 0'. | | |
| Additional Lot 28, subdivision. | | |
| location info: | | |
| Address of well: 30631 S. Redman Lane | | |
| Wilmington, IL | | |
| Location source: Location from permit | | |
| Permit Date: June 15, 2001 | Permit #: | |

COMPANY Edward Hall - Web Well & Pump

FARM O'Conner, Louise

DATE DRILLED

NO.

ELEVATION 0

COUNTY NO. 39433

LOCATION NW NW NW

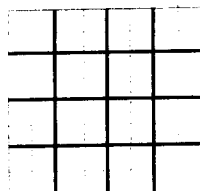
LATITUDE 41.332511

LONGITUDE - 88.189971

COUNTY Will

API 121973943300

22 - 33N - 9E



ILLINOIS STATE GEOLOGICAL SURVEY

| Private Water Well | Top | Bottom |
|---|-----|--------|
| clay | 0 | 36 |
| gravel | 36 | 39 |
| shale | 39 | 60 |
| limestone | 60 | 105 |
| shale | 105 | 155 |
| limestone | 155 | 320 |
| Total Depth | | 320 |
| Casing: 5" PVC from 1' to 74' | | |
| Grout: BENTONITE from 5 to 70. | | |
| Water from limestone at 155' to 320'. | | |
| Static level 200' below casing top which is 1' above GL | | |
| Pumping level 300' when pumping at 13 gpm for 2 hours | | |
| Permanent pump installed at 300' on , with a capacity of 12 gpm | | |
| Additional Lot , subdivision. | | |
| location info: | | |
| Address of well: 29761 S. Cooper Rd. | | |
| Wilmington, IL | | |
| Location source: Location from permit | | |
| Permit Date: December 20, 2001 | | |
| Permit #: | | |

COMPANY Strange, Robert E.

FARM Overton, Jessie

DATE DRILLED December 23, 2001

NO. 1

ELEVATION 0

COUNTY NO. 40232

LOCATION SW SW NW

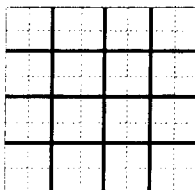
LATITUDE 41.340730

LONGITUDE - 88.227901

COUNTY Will

API 121974023200

17 - 33N - 9E



ILLINOIS STATE GEOLOGICAL SURVEY

| Private Water Well | Top | Bottom |
|--------------------|-----|--------|
| clay | 0 | 15 |
| soapstone | 15 | 60 |
| limestone | 60 | 105 |
| shale | 105 | 170 |
| limestone | 170 | 210 |
| shale | 210 | 212 |
| limestone | 212 | 360 |
| Total Depth | | 360 |

Casing: 5" PVC SDR 21 from -1' to 100'
 4" PVC SDR 21 from 90' to 220'

Grout: GROUT from 0 to 100.

Water from limestone at 300' to 362'.

Static level 100' below casing top which is 1' above GL

Pumping level 260' when pumping at 20 gpm for 2 hours

Permanent pump installed at 260' on , with a capacity of 12 gpm

Additional Lot 64, Phalen Acres subdivision.
 location info:

Address of well: same as above

Location source: Location from permit

Permit Date: November 14, 2001

Permit #:

COMPANY Strange, Robert E.

FARM Kozlowski, Mike

DATE DRILLED December 11, 2001

NO. 1

ELEVATION 0

COUNTY NO. 40428

LOCATION NW NW SW

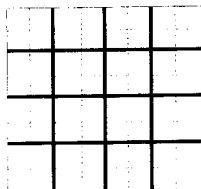
LATITUDE 41.367619

LONGITUDE - 88.247866

COUNTY Will

API 121974042800

6 - 33N - 9E



| Private Water Well | Top | Bottom |
|--|-----|--------|
| sand | 0 | 18 |
| clay & gravel | 18 | 37 |
| shale | 37 | 75 |
| limestone | 75 | 130 |
| black shale | 130 | 205 |
| limestone | 205 | 580 |
| St. Peter | 580 | 645 |
| Total Depth | | 645 |
| Casing: 5" STEEL from -1' to 80' | | |
| 4.50" CERTALOK from 15' to 275' | | |
| Grout: BENTONITE from 5 to 80. | | |
| Water from St. Peter at 585' to 645'. | | |
| Static level 220' below casing top which is 1' above GL | | |
| Pumping level 290' when pumping at 20 gpm for 1 hour | | |
| Permanent pump installed at 400' on June 14, 2002, with a capacity of 12 gpm | | |
| Additional Lot , subdivision. | | |
| location info: | | |
| Address of well: same as above | | |
| Location source: Location from permit | | |
| Permit Date: June 7, 2002 | | |
| Permit #: | | |

COMPANY Matherly, Hubert

FARM McKeller, Emmett

DATE DRILLED June 12, 2002

NO.

ELEVATION 0

COUNTY NO. 40430

LOCATION NW NW SW

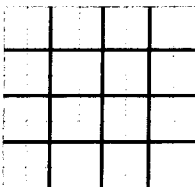
LATITUDE 41.324724

LONGITUDE - 88.208674

COUNTY Will

API 121974043000

21 - 33N - 9E



| Private Water Well | Top | Bottom |
|---|------------------|--------|
| soil | 0 | 1 |
| yellow clay | 1 | 7 |
| sand | 7 | 11 |
| gray clay | 11 | 21 |
| gravel | 21 | 25 |
| blue clay | 25 | 82 |
| gray shale | 82 | 109 |
| Silurian | 109 | 132 |
| Maquoka shale | 132 | 188 |
| soft shale | 188 | 200 |
| Trenton lime | 200 | 570 |
| St. Peter | 570 | 620 |
| Total Depth | | 620 |
| Casing: 5" PVC from 0' to 83' | | |
| 4" PVC from 83' to 250' | | |
| Grout: BENSEAL from 0 to 83. | | |
| Water from St. Peter at 570' to 620'. | | |
| Static level 290' below casing top which is 2' above GL | | |
| Pumping level 320' when pumping at 10 gpm for 2 hours | | |
| Permanent pump installed at 360' on August 7, 2003, with a capacity | | |
| of 7 gpm | | |
| Additional Lot 25, subdivision. | | |
| location info: | | |
| Address of well: same as above | | |
| Permit Date: July 2, 2003 | Permit #: | |

COMPANY Wills, William D.

FARM Cartwright, Bob

DATE DRILLED August 1, 2003

NO.

ELEVATION 0

COUNTY NO. 40914

LOCATION SW NW NW

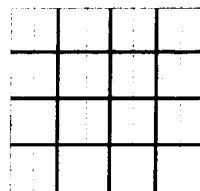
LATITUDE 41.330681

LONGITUDE - 88.189845

COUNTY Will

API 121974091400

22 - 33N - 9E



Location source: Location from permit

Wills, William D.

Cartwright, Bob

COUNTY Will

API 121974091400 22 - 33N - 9E

ILLINOIS STATE GEOLOGICAL SURVEY

| Private Water Well | Top | Bottom |
|--|-----|--------|
| sand | 0 | 3 |
| black dirt | 3 | 10 |
| sandy gray clay | 10 | 30 |
| soft shale | 30 | 40 |
| white rock | 40 | 193 |
| hard gray shale | 193 | 275 |
| limestone | 275 | 520 |
| Total Depth | | 520 |
| Casing: 5" PVC from 0' to 43' | | |
| Grout: ENVIROPLUG from 0 to 43. | | |
| Water from rock at 440' to 520'. | | |
| Static level 200' below casing top which is 1' above GL | | |
| Pumping level 300' when pumping at 20 gpm for 1 hour | | |
| Permanent pump installed at 360' on September 16, 2003, with a capacity of 12 gpm | | |
| Additional Lot 7, Bardwell Place subdivision. location info: | | |
| Address of well: 25716 Cottage Rd. Wilmington, IL | | |
| Location source: Location from permit | | |
| Permit Date: July 3, 2003 Permit #: | | |

COMPANY Stinnett, David

FARM Ferguson, William

DATE DRILLED September 12, 2003

NO.

ELEVATION 0

COUNTY NO. 40917

LOCATION SE SE NE

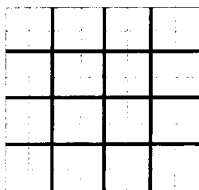
LATITUDE 41.355405

LONGITUDE - 88.230918

COUNTY Will

API 121974091700

7 - 33N - 9E



ILLINOIS STATE GEOLOGICAL SURVEY

| Private Water Well | Top | Bottom |
|--|------------------|--------|
| soil | 0 | 1 |
| gravel | 1 | 3 |
| yellow clay | 3 | 13 |
| sand & gravel | 13 | 18 |
| red clay | 18 | 26 |
| gray clay | 26 | 40 |
| shale | 40 | 81 |
| Silurian | 81 | 132 |
| Maquoketa shale | 132 | 205 |
| Trenton | 205 | 320 |
| Total Depth | | 320 |
| Casing: 4.5" PVC SDR 17 from 160' to 240' | | |
| Grout: BENSEAL from 0 to 55. | | |
| Water from limestone at 205' to 320'. | | |
| Static level 250' below casing top which is 2' above GL | | |
| Pumping level 265' when pumping at 10 gpm for 2 hours | | |
| Permanent pump installed at 280' on April 23, 2004, with a capacity of 7 gpm | | |
| Additional Lot , subdivision. | | |
| location info: | | |
| Address of well: same as above | | |
| Location source: Location from permit | | |
| Permit Date: March 5, 2004 | Permit #: | |

COMPANY Wills, William D.

FARM Vedder, Charles

DATE DRILLED March 17, 2004

NO.

ELEVATION 0

COUNTY NO. 41189

LOCATION SE SW SW

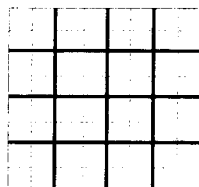
LATITUDE 41.348026

LONGITUDE - 88.225701

COUNTY Will

API 121974118900

8 - 33N - 9E



ILLINOIS STATE GEOLOGICAL SURVEY

Private Water Well

| | Top | Bottom |
|--------------------|-----|--------|
| sand | 0 | 35 |
| limestone | 35 | 80 |
| shale | 80 | 110 |
| limestone | 110 | 425 |
| Total Depth | | 425 |

Casing: 6" STEEL from -1' to 40'
4.50" PVC from 20' to 160'

Grout: BENTONITE from 0 to 40.

Water from limestone at 160' to 425'.

Static level 100' below casing top which is 1' above GL

Pumping level 240' when pumping at 20 gpm for 1 hour

Permanent pump installed at 300' on September 30, 2004, with a
capacity of 12 gpm

Additional Lot 1, O'Briens Riverview subdivision.
location info:

Address of well: 25806 Cottage Rd.
Wilmington, IL

Location source: Location from permit

Permit Date: June 23, 2004

Permit #:

COMPANY Matherly, Hubert

FARM Ramuta, Matthew

DATE DRILLED July 28, 2004

ELEVATION 0

LOCATION SW SE NE

LATITUDE 41.355342

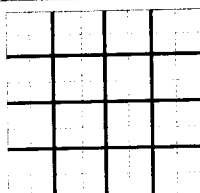
COUNTY Will

NO. 1

COUNTY NO. 41398

LONGITUDE - 88.233313

API 121974139800



7 - 33N - 9E

ILLINOIS STATE GEOLOGICAL SURVEY

Private Water Well

Top Bottom

| | | |
|--------------------|-----|-----|
| clay | 0 | 10 |
| limestone | 10 | 160 |
| shale | 160 | 240 |
| limestone | 240 | 550 |
| sandstone | 550 | 600 |
| Total Depth | | 600 |

Casing: 6" STEEL from -1' to 42'
4.50" PVC from 20' to 280'

Grout: BENTONITE from 5 to 42.

Water from sandstone at 550' to 600'.

Static level 120' below casing top which is 1' above GL

Pumping level 300' when pumping at 20 gpm for 1 hour

Permanent pump installed at 400' on June 3, 2004, with a capacity
of 12 gpm

Additional Lot 1, subdivision.
location info:

Address of well: 24760 Cottage Rd.
Wilmington, IL

Location source: Location from permit

Permit Date: September 24, 2003

Permit #:

COMPANY Matherly, Hubert

FARM Sorg, Ron

DATE DRILLED April 20, 2004

NO. 1

ELEVATION 0

COUNTY NO. 41399

LOCATION NW NW SW

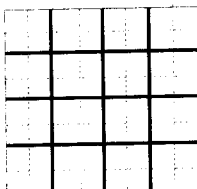
LATITUDE 41.353757

LONGITUDE - 88.209704

COUNTY Will

API 121974139900

9 - 33N - 9E



ILLINOIS STATE GEOLOGICAL SURVEY

Private Water Well

| | Top | Bottom |
|----------------------|-----|--------|
| topsoil | 0 | 2 |
| clay & gravel, mixed | 2 | 14 |
| limestone | 14 | 45 |
| hard shale | 45 | 125 |
| rock | 125 | 170 |
| hard shale | 170 | 180 |
| Total Depth | | 180 |

Casing: 5" PVC SDR 21 from -1' to 126'

Grout: GROUT from 0 to 125.

Water from rock at 125' to 170'.

Static level 50' below casing top which is 1' above GL

Pumping level 100' when pumping at 12 gpm for 2 hours

Permanent pump installed at 100' on November 15, 2004, with a capacity of 12 gpm

Additional Lot , subdivision.
location info:

Address of well: 25132 Cottage Rd.
Wilmington, IL

Location source: Location from permit

Permit Date: October 8, 2004

Permit #:

COMPANY Area Well & Pump

FARM Johnson, Bob

DATE DRILLED October 14, 2004

NO. 1

ELEVATION 0

COUNTY NO. 41459

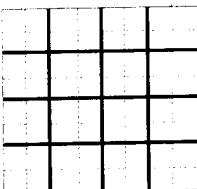
LOCATION SE SW NE

LATITUDE 41.355306

LONGITUDE - 88.216973

COUNTY Will

API 121974145900



8 - 33N - 9E

ILLINOIS STATE GEOLOGICAL SURVEY

| Private Water Well | Top | Bottom |
|--------------------|-----|--------|
| clay | 0 | 5 |
| gravel & clay | 5 | 12 |
| limestone | 12 | 25 |
| shale | 25 | 83 |
| limestone | 83 | 86 |
| shale | 86 | 134 |
| limestone | 134 | 165 |
| Total Depth | | 165 |

Casing: 4" from 75' to 135'
5" from -1' to 83'

Grout: NEAT CEMENT from 8 to 83.

Water from limestone at 150' to 165'.

Static level 43' below casing top which is 1' above GL

Pumping level 55' when pumping at 10 gpm for 4 hours

Permanent pump installed at 80' on June 30, 2005, with a capacity
of 10 gpm

Additional Lot 18, subdivision.
location info:

Address of well: 25148 Cottage Rd.
Wilmington, IL

Location source: Location from permit

Permit Date: May 25, 2005

Permit #:

COMPANY Doyle, Gerald

FARM Garrone, Frank

DATE DRILLED June 27, 2005

NO. 1

ELEVATION 0

COUNTY NO. 41578

LOCATION NE SW NE

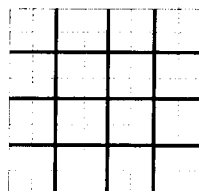
LATITUDE 41.357116

LONGITUDE - 88.217068

COUNTY Will

API 121974157800

8 - 33N - 9E



APPENDIX C

QUALITY ASSURANCE PROGRAM - TELEDYNE BROWN ENGINEERING, INC.

Quality Assurance Manual

For


Teledyne Brown Engineering Environmental Services

2508 Quality Lane

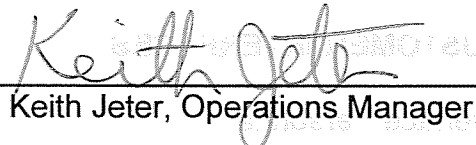
Knoxville, Tennessee 37931-3133

865-690-6819

Generated by:


Lynne Perry, QA Manager

Approved by:


Keith Jeter, Operations Manager

Copy No.:

Original

Issued To:

Lynne Perry

Date:

10/26/05

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REVISION HISTORY

| | | | |
|------------|---|-----------------|------------|
| Revision 7 | Complete re-write | January 1, 2005 | Bill Meyer |
| Revision 8 | Updated organization chart, minor change to 1.0, 4.4, 7.5.3.2, 10.2.3, and 12.3 | | |

1.0

Knoxville QAM Section Introduction

This Quality Assurance Manual (QAM) and related Procedures describes the Knoxville Environmental Services Laboratory's QA system. This system is designed to meet multiple quality standards imposed by Customers and regulatory agencies including:

NRC's 10 CFR 50 Appendix B
NRC's Regulatory Guide 4.15
DOE's Order 414.1
DOE's QSAS
ANSI N 42.23
ANSI N 13.30
NELAC Standard, Chapter 5

The Environmental Services (ES) Laboratory does low level radioactivity analyses for Power Plants and other customers. It primarily analyzes environmental samples (natural products from around plants such as milk), in-plant samples (air filters, waters), bioassay samples from customer's employees, and waste disposal samples (liquids and solids).

Potable and non-potable water samples are tested using methods based on EPA standards as cited in State licenses (see Procedure 4010). The listing [current as of initial printing of this Manual – see current index for revision status and additions / deletions] of implementing Procedures (SOPs) covering Administration, Methods, Counting Instruments, Technical, Miscellaneous, and LIMS is shown in Table 1-1. Reference to these Procedures by number is made throughout this QAM.

Table 1-1

| Number | Title |
|---------------|--|
| Part 1 | Administrative Procedures |
| 1001 | Validation and Verification of Computer Programs for Radiochemistry Data Reduction |
| 1002 | Organization and Responsibility |
| 1003 | Control, Retention, and Disposal of Quality Assurance Records |
| 1004 | Definitions |
| 1005 | Data Integrity |
| 1006 | Job Descriptions |
| 1007 | Training and Certifications |
| 1008 | Procedure and Document Control |
| 1009 | Calibration System |
| 1010 | Nonconformance Controls |
| 1011 | 10CFR21 Reporting |
| 1012 | Corrective Action and Preventive Action |

| Number | Title |
|---------------|--|
| 1013 | Internal Audits and Management Reviews |
| 1014 | RFP, Contract Review, and Order Entry (formerly 4001) |
| 1015 | Procurement Controls |
| Part 2 | Method Procedures |
| 2001 | Alpha Isotopic and Plutonium-241 |
| 2002 | Carbon-14 Activity in Various Matrices |
| 2003 | Carbon-14 and Tritium in Soils, Solids, and Biological Samples; Harvey Oxidizer Method |
| 2004 | Cerium-141 and Cerium-144 by Radiochemical Separation |
| 2005 | Cesium-137 by Radiochemical Separation |
| 2006 | Iron-55 Activity in Various Matrices |
| 2007 | Gamma Emitting Radioisotope Analysis |
| 2008 | Gross Alpha and/or Gross Beta Activity in Various Matrices |
| 2009 | Gross Beta Minus Potassium-40 Activity in Urine and Fecal Samples |
| 2010 | Tritium and Carbon-14 Analysis by Liquid Scintillation |
| 2011 | Tritium Analysis in Drinking Water by Liquid Scintillation |
| 2012 | Radioiodine in Various Matrices |
| 2013 | Radionickel Activity in Various Matrices |
| 2014 | Phosphorus-32 Activity in Various Matrices |
| 2015 | Lead-210 Activity in Various Matrices |
| 2016 | Radium-226 Analysis in Various Matrices |
| 2017 | Total Radium in Water Samples |
| 2018 | Radiostrontium Analysis by Chemical Separation |
| 2019 | Radiostrontium Analysis by Ion Exchange |
| 2020 | Sulfur-35 Analysis |
| 2021 | Technetium-99 Analysis by Eichrom Resin Separation |
| 2022 | Total Uranium Analysis by KPA |
| 2023 | Compositing of Samples |
| 2024 | Dry Ashing of Environmental Samples |
| 2025 | Preparation and Standardization of Carrier Solutions |
| 2026 | Radioactive Reference Standard Solutions and Records |
| 2027 | Glassware Washing and Storage |
| 2028 | Moisture Content of Various Matrices |
| 2029 | Polonium-210 Activity in Various Matrices |
| 2030 | Promethium-147 Analysis |

| Number | Title |
|---------------|--|
| Part 3 | Instrument Procedures |
| 3001 | Calibration and Control of Gamma-Ray Spectrometers |
| 3002 | Calibration of Alpha Spectrometers |
| 3003 | Calibration and Control of Alpha and Beta Counting Instruments |
| 3004 | Calibration and Control of Liquid Scintillation Counters |
| 3005 | Calibration and Operation of pH Meters |
| 3006 | Balance Calibration and Check |
| 3008 | Negative Results Evaluation Policy |
| 3009 | Use and Maintenance of Mechanical Pipettors |
| 3010 | Microwave Digestion System Use and Maintenance |
| Part 4 | Technical Procedures |
| 4001 | Not Used |
| 4002 | QC Checks on Data |
| 4003 | Sample Regent and Control |
| 4004 | Data Package Preparation and Reporting |
| 4005 | Blank, Spike, and Duplicate Controls |
| 4006 | Inter-Laboratory Comparison Study Process |
| 4007 | Method Basis and Initial Validation Process |
| 4008 | Not Used |
| 4009 | MDL Controls |
| 4010 | State Certification Process |
| 4011 | Accuracy, Precision, Efficiency, and Bias Controls and Data Quality Objectives |
| 4012 | Not Used |
| 4013 | Not Used |
| 4014 | Facility Operation and Control |
| 4015 | Documentation of Analytical Laboratory Logbooks (formerly 1002) |
| 4016 | Total Propagated Uncertainty (formerly 1004) |
| 4017 | LIMS Operation |
| 4018 | Instrument Calibration System |
| 4019 | Radioactive Reference Material Standards |
| Part 5 | Miscellaneous Procedures |
| 5001 | Laboratory Hood Operations |
| 5002 | Operation and Maintenance of Deionized Water System |
| 5003 | Waste Management |
| 5004 | Acid Neutralization and Purification System Operation Procedure |

| | |
|---------------|---|
| Part 6 | LIMS |
| 6001 | LIMS Raw Data Processing and Reporting |
| 6002 | Software Development and/or Pilots of COTS Packages |
| 6003 | Software Change and Version Control |
| 6004 | Backup of Data and System Files |
| 6005 | Disaster Recovery Plan |
| 6006 | LIMS Hardware |
| 6007 | LIMS User Access |
| 6008 | LIMS Training |
| 6009 | LIMS Security |

2.0 QUALITY SYSTEM

The TBE-ES QA system is designed to comply with multiple customer- and regulatory agency-imposed specifications related to quality. This quality system applies to all activities of TBE-ES that affect the quality of analyses performed by the laboratory.

2.1 Policy

The TBE quality policy, given in Company Policy P-501, is “TBE will continually improve our processes and effectiveness in providing products and services that exceed our customer’s expectations.”

This policy is amplified by this Laboratory’s commitment, as attested to by the title page signatures, to perform all work to good professional practices and to deliver high quality services to our customers with full data integrity. (See Section 4.0 and Procedure 1005).

2.2 Quality System Structure

The Quality System is operated by the organizations described in Section 3.0 of this Manual. The Quality System is described in this Manual and in the Procedures Manual, both of which are maintained by the QA Manager. Procedures are divided into 6 sections – Administrative, Methods, Equipments, Technical, Miscellaneous, and LIMS. This Manual is structured as shown in the Table of Contents and refers to Procedures when applicable. Cross references to the various imposed quality specifications are contained in Appendices to this Manual.

2.3 Quality System Objectives

The Quality System is established to meet the objective of assuring all operations are planned and executed in accordance with system requirements. The Quality System also assures that performance evaluations are performed (see Procedure 4006), and that appropriate verifications are performed (see Procedures in the 1000 and 4000 series) to further assure compliance. Verification includes

examination of final reports (prior to submittal to customers) to determine their quality (see Procedure 4004).

To further these objectives, various in-process assessments of data, as well as assessments of the system, via internal audits and management reviews, are performed. Both internal experts and customer / regulatory agencies perform further assessments of the system and compliance to requirements.

2.4 Personnel Orientation, Training, and Qualification

TBE provides indoctrination and training to employees and performs proficiency evaluation of technical personnel. This effort is described in Section 4.0.

3.0 ORGANIZATION, AUTHORITY, AND RESPONSIBILITY

TBE has established an effective organization for conducting laboratory analyses at the Knoxville Environmental Services Laboratory. The basic organization is shown in Figure 3-1. Detail organization charts with names, authorities, and responsibilities are given in Procedure 1002. Job descriptions are given in Procedure 1006.

This organization provides clearly established Quality Assurance authorities, duties, and functions. QA has the organizational freedom needed to:

- (1) Identify problems
- (2) Stop nonconforming work
- (3) Initiate investigations
- (4) Recommend corrective and preventive actions
- (5) Provide solutions or recommend solutions
- (6) Verify implementation of actions

All Laboratory personnel have the authority and resources to do their assigned duties and have the freedom to act on problems. The QA personnel have direct, independent access to Company management as shown in Figure 3-1.

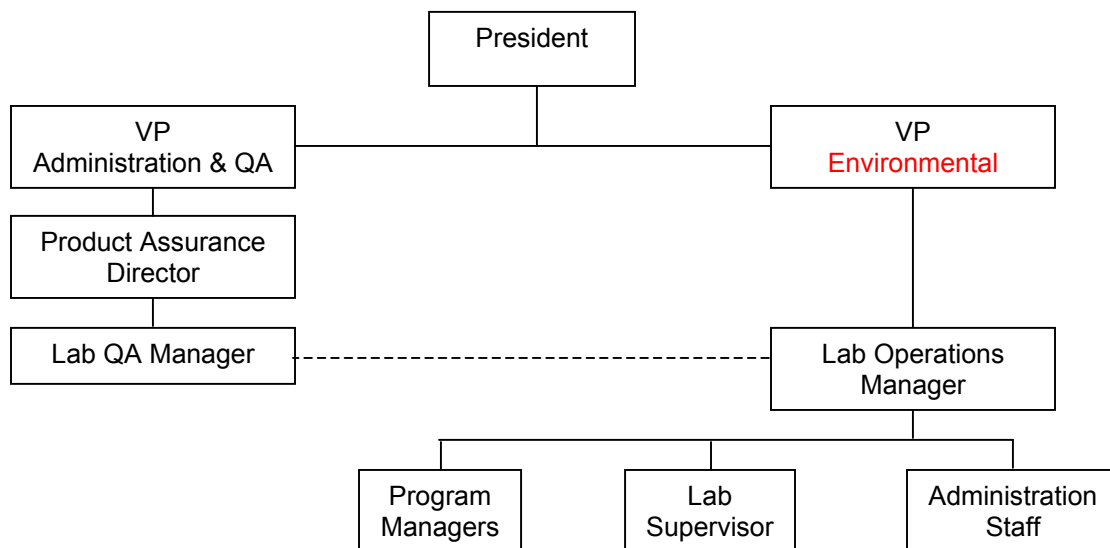


Figure 3.1. Laboratory Organization

4.0 PERSONNEL ORIENTATION, DATA INTEGRITY, TRAINING, AND QUALIFICATION

4.1 Orientation

All laboratory personnel must receive orientation to the quality program if their work can affect quality. Orientation includes a brief review of customer- and regulatory agency-imposed quality requirements, the structure of the QAM, and the implementing procedures. The goal of orientation is to cover the nature and goals of the QA program.

4.2 Data Integrity

The primary output of the Laboratory is data. Special emphasis and training in data integrity is given to all personnel whose work provides or supports data delivery. The Laboratory Data Integrity Procedure (Procedure 1005) describes training, personnel attestations, and monitoring operations. Annual reviews are required.

4.3 Training

The Quality Assurance Manager (QAM) maintains a training matrix indicating which laboratory personnel need training in which specific Procedures. This matrix is updated when personnel change or change assignments. All personnel are trained per these requirements and procedures. This training program is described in Procedure 1007. The assigned responsibilities for employees are described in Procedure 1002 (See Section 3.0) on Organization and in Procedure 1006, Job Descriptions. Refresher training or re-training is given annually as appropriate.

4.4 Qualification

Personnel are qualified as required by their job description. Management and non-analysts are evaluated based on past experience, education, and management's assessment of their capabilities. Formal qualification is required of analysts and related **technical** personnel who perform laboratory functions. Each applicable person is given training and then formally evaluated by the Operations Manager (or his designees) and by QA. Each analyst must initially demonstrate capability to perform each assigned analytical effort. Each year, thereafter, he or she must perform similar analyses on Interlab Comparison Samples (see Procedure 4006) or on equivalent blanks and spikes samples. Acceptable results extend qualifications (certification). Unacceptable results require retraining in the subject method / Procedures. (See Procedure 1007 for added information, records, forms, etc. used.)

4.5 Records

Records of training subjects, contents, attendees, instructors, and certifications are maintained by QA.

5.0 CUSTOMER INTERFACES

5.1 Interface Personnel

The Laboratory has designated Program Managers as the primary interface with all customers. Other interfaces may be the QA Manager or the Lab Operations Manager.

5.2 Bid Requests and Tenders

The Program Managers respond to customer requests for bids and proposals per Procedure 1014 for bids, proposals, and contract reviews. They clarify customer requests so both the customer and the lab staff understand requests. As responses are developed, internal reviews are conducted to ensure that requirements are adequately defined and documented and to verify that the Laboratory has adequate resources in physical capabilities, personal skills, and technical information to perform the work. Accreditation needs are reviewed. If subcontracts are required to perform any analysis, the subcontractor is similarly evaluated and the client notified in writing of the effort. Most qualifications are routine with standard pricing and the review of these quotes is performed by the Program Manager. Larger or more complex quotes are reviewed by the Operations Manager and the QA Manager (or designees). Evidence of review is by initialing and dating applicable papers, signatures on quotations, or by memo.

5.3 Contracts

The Program Manager's receive contract awards (oral or written) and generate the work planning for initiation preparation (charge numbers, data structure or contents in LIMS, etc.). They review contracts for possible differences from quotations and, if acceptable, contracts are processed. Documentation of the review is by initials and date as a minimum. Contract changes receive similar reviews and planning.

5.4 TBE's Expectation of Customers

TBE expects customers to provide samples suitable for lab analysis. These expectations include:

- Accurate and unambiguous identification of samples
- Proper collection and preservation of samples
- Use of appropriate containers free from external and internal contamination
- Integrity preservation during shipment and timely delivery of samples that are age sensitive
- Adequate sized samples that allow for retest, if needed
- Specification of unique MOA/MDC requirements
- Alerting the lab about abnormal samples (high activity, different chemical contents, etc.)
- Chain of custody initiation, when required.

5.5 Customer Satisfaction

TBE's quality policy centers on customer satisfaction (See 2.0). TBE will work to satisfy customers through full compliance with contract requirements, providing accurate data and properly responding to any questions or complaints. Customers are provided full cooperation in their monitoring of Laboratory performance. Customers are notified if any applicable State Accreditation is withdrawn, revoked, or suspended.

5.5.1 Customer Complaints

Any customer complaints are documented and tracked to closure. Most complaints concern analysis data and are received by Program Managers. They log each such complaint, order retests for verification, and provide documented results to customers. Complaints may also be received by QA or Operations.

If complaints are other than re-test type, the nonconformance and corrective action systems (Sections 12 and 13) are used to resolve them and record all actions taken.

5.5.2 Customer Confidentiality

All laboratory personnel maintain confidentiality of customer-unique information.

6.0 DOCUMENTATION GENERATION & CONTROL

6.1 General

The documentation generation and control system is detailed in Procedure 1008. An overview is given below. The basic quality system documents are described in Section 2.0.

6.2 New Documentation

Each Procedure and this QAM is written by appropriate personnel, validated if applicable (see Section 7.0), reviewed for adequacy, completeness, and correctness, and, if acceptable, accepted by the authorized approver [QA Manager, Operations Manager (or their designee)]. Both approvals are required if a Procedure affects both QA and Operations. (See Responsibilities in Section 3.0). These procedures control the quality measurements and their accuracy.

Each document carries a unique identification number, a revision level, dates, page numbers and total page count, and approver identification and sign off. If TBE writes code for software, the software is version identified and issued after Verification and Validation per Section 7.0.

6.3 Documentation Changes

Each change is reviewed in the same manner and by the same people as new documentation. Revision identifications are updated and changes indicated by side bars, italicized words, or by revision description when practical. Obsolete revisions are maintained by QA after being identified as obsolete.

6.4 Documentation Lists and Distributions

Computer indexes of documents are maintained by Quality showing the current authorized revision level of each document. These revisions are placed on the Laboratory server and obsolete ones are removed so that all personnel have only the current documents. If hard copies are produced and distributed, separate distribution lists are maintained indicating who has them and their revision level(s). Copies downloaded off the server are uncontrolled unless verified by the user (on the computer) to be the latest revision.

6.5 Other Documentation

In addition to TBE-generated documentation, QA maintains copies of applicable specifications, regulations, and standard methods.

6.6 Documentation Reviews

Each issued document is reviewed at least every third year by the approving personnel. This review determines continued suitability for use and compliance with requirements.

7.0 DESIGN OF LABORATORY CONTROLS

7.1 General

The Laboratory and its operating procedures are designed specifically for low level (environmental and in-plant) radioactive sample analysis. The various aspects of the laboratory design include the following which are discussed in subsequent paragraphs of this Section:

- (a) Facility
- (b) Technical Processes and Methods
- (c) Verification of Design of Processes, Methods, and Software.
- (d) Design of Quality Controls
- (e) Counting Instrument Controls

7.2 Facility

The facility was designed and built in 2000 to facilitate correct performance of operations in accordance with good laboratory practices and regulatory requirements. It provides security for operations and samples. It separates sample storage areas based on activity levels, separates wet chemistry from counting instrumentation for contamination control, and provides space and electronic systems for documentation, analysis, and record storage. Procedure 4014 describes the facility, room uses, layouts, etc.

7.3 Technical Processes and Methods

7.3.1 Operational Flow

The laboratory design provides for sample receipt and storage (including special environmental provisions for perishable items) where samples are received from clients and other labs (see Section 9.0). The samples are logged into the computer based Laboratory Information Management System (LIMS) and receive unique identification numbers and bar code labels. (See Procedure 4017 for LIMS description and user procedures). The Program Managers then plan the work and assure LIMS contains any special instructions to analysts. Samples then go to sample preparation, wet chemistry (for chemical separation), and counting based on the radionuclides. See Procedures in the 2000 and 3000 series. Analysts perform the required tasks with data being entered into logbooks, LIMS, and counting equipment data systems as appropriate. Results are collected and reviewed by the Operations Manager and Program Managers and reports to clients are generated (See Section 14.0). All records (electronic or hard copy) are maintained in files or in back-up electronic copies (see Section 15.0). After the required hold periods and client notification and approval, samples are disposed of in compliance with regulatory requirements (see Procedures 5003 and 5004).

7.3.2 Methods

The laboratory methods documented in the 2000 and 3000 series of Procedures were primarily developed by senior TBE laboratory personnel based on years of experience at our prior facility in New Jersey. They have been improved, supplemented and implemented here. Where EPA or other accepted national methods exist (primarily for water analyses under State certification programs - see Procedure 4010), the TBE methods conform to the imposed requirements or State accepted alternate requirements. Any method modifications are documented and described in the Procedure. There are no nationally recognized methods for most other analysis methods but references to other method documents are noted where applicable.

7.3.3 Data Reduction and Analysis

Whenever possible automatic data capture and computerized data reduction programs are used. Calculations are either performed using commercial software (counting system operating systems) or TBE developed and validated software is used (see 7.4 below). Analysis of reduced data is performed as described in Section 14.0 and Procedure 4004.

7.4 Verification of Technical Processes, Methods, and Software

7.4.1 Operational Flow Verification

The entire QA Manual and related procedures describe the verification of elements of the technical process flow and the establishment of quality check points, reviews, and controls.

7.4.2 Method Verifications

Methods are verified and validated per Procedure 4007 prior to use unless otherwise agreed to by the client. For most TBE methods initial validation occurred well in the past. New or significantly revised Methods receive initial validation by demonstration of their performance using known analytes (NIST traceable) in appropriate matrices. Sufficient samples are run to obtain statistical data that provides evidence of process capability and control, establishes detection levels (see procedure 4009), bias and precision data (see Procedure 4011). All method procedures and validation data are available to respective clients. Also see Section 7.5 below for the Demonstration of Capability program.

7.4.3 Data Reduction and Analysis Verification

Data reduction and analysis verification is performed by personnel who did not generate the data. (See Section 14.0).

7.5 Design of Quality Controls

7.5.1 General

There are multiple quality controls designed into the laboratory operations. Many of these are described elsewhere in this manual and include personnel qualification (Section 4.0), Document control (6.0), Sample identification and control (9.0), Use of reference standards (10.0), intra- and inter- laboratory tests (10.0), etc. This Section describes the basic quality control systems used to verify Method capability and performance.

7.5.2 Demonstration of Capability (D of C)

The demonstration of capability system verifies and documents that the method, analyst, and the equipment can perform within acceptable limits. The D of C is certified for each combination of analyte, method, and instrument type. D of C's are certified based on objective evidence at least annually. This program is combined with the analyst D of C program (See Section 4.0). Initial D of C's use the method validation effort as covered above. Subsequent D of C's use Inter-Laboratory samples (Procedure 4006) or, if necessary, laboratory generated samples using NIST traceable standards. If results are outside of control limits, re-demonstration is required after investigation and corrective action is accomplished (See Sections 12.0 and 13.0)

7.5.3 Process Control Checks

Process control checks are designed to include Inter-Lab samples, Intra-lab QC check samples, and customer provided check samples. 10% of laboratory analysis samples are for process control purposes.

7.5.3.1 Inter- Lab Samples. Inter-lab samples are procured or obtained from sources providing analytes of interest in matrices similar to normal client samples. These samples may be used for Demonstration of Capability of analyst's, equipment and methods. They also provide for independent insight into the lab's process capabilities. Any value reported as being in the warning zone (over 2 sigma) is reviewed and improvements taken. Any value failing (over 3 sigma) is documented on an NCR and formal investigation per Section 12.0 and 13.0 is performed. If root causes are not clearly understood and fixed, re-tests are required using lab prepared samples (See Procedure 4006).

7.5.3.2 QC Samples. QC samples, along with Inter-lab samples and customer check samples, are 10% of the annual lab workload for the applicable analyte and method. If batch processing is used, some specifications require specific checks with each batch or each day rather than as continuous process controls. (See Procedure 4005)

QC samples consist of multiple types of samples including:

- (a) Method blanks
- (b) Blank spikes
- (c) Matrix spikes

- (d) Duplicates
- (e) Tracers and carriers

Acceptance limits for these samples are given in Procedures or in lab standards. The number, frequency, and use of these sample types varies with the method, matrix, and supplemental requirements. The patterns of use versus method and the use of the resulting test data is described in Procedure 4005.

7.5.3.3 Customer Provided Check Samples. Customers may provide blind check samples and duplicates to aid in their evaluation of the Laboratory. When the lab is notified that samples are check samples their results are included in the QC sample percentage counts. Any reported problems are treated as formal complaints and investigated per Section 5.

7.6 Counting Instrument Controls

The calibration of instruments is their primary control and is described in Section 11.0. In addition, counting procedures (3000 series) also specify use of background checks (method blank data is not used for this) to evaluate possible counting equipment contamination. Instrument calibration checks using a lab standard from a different source than the one used for calibration are also used. Background data can be used to adjust client and test data. Checks with lab standards indicate potential calibration changes.

8.0 PURCHASING AND SUBCONTRACT CONTROLS

8.1 General

Procurement and Subcontracts efforts use the Huntsville-based Cost Point computer system to process orders. The Laboratory-generated Purchase Requisitions are electronically copied into Purchase Orders in Huntsville. The Laboratory also specifies sources to be used. Procured items and services are received at the Laboratory where receiving checks and inspections are made. Laboratory Procedure 1015 provides details on the procurement control system at the Laboratory and references the Huntsville procedures as applicable.

8.2 Source Selection

Sources for procurements of items and services are evaluated and approved by QA as described in Procedure 1015. Nationally recognized catalog item sources are approved by the QA Manager based on reputation. Maintenance services by an approved distributor or the equipment manufacturing company are pre-approved. Sources for other services are evaluated by QA, based on service criticality to the quality system, by phone, mail out, or site visit.

Subcontract sources for laboratory analysis services are only placed with accredited laboratories (by NELAP, NUPIC, State, Client, etc.) as applicable for the type of analysis to be performed. QA maintains lists of approved vendors and records of evaluations performed.

8.3 Procurement of Supplies and Support Services

8.3.1 Catalog Supplies

The Laboratory procures reagents, processing chemicals, laboratory “glassware,” consumables, and other catalog items from nationally known vendors and to applicable laboratory grades, purities, concentrations, accuracy levels, etc. Purchase Requisitions for these items specify catalog numbers or similar call-outs for these off-the-shelf items. Requisitions are generated by the personnel in the lab needing the item and are approved by the Operations or Production Manager. Reagents are analytical reagent grade only.

8.3.2 Support Services

Purchase Requisitions for support services (such as balance calibration, equipment maintenance, etc.) are processed as in 8.3.1 but technical requirements are specified and reviewed before approvals are given.

8.3.3 Equipment and Software

Purchase Requisitions for new equipment, software programs, and major facility modifications affecting the quality system are reviewed and approved by the Operations Manager and the QA Manager.

8.4 Subcontracting of Analytical Services

When necessary, the Laboratory may subcontract analytical services required by a client. This may be because of special needs, infrequency of analysis, etc. Applicable quality and regulatory requirements are imposed in the Purchase Requisition and undergo a technical review by QA. TBE reserves the right of access by TBE and our client for verification purposes.

8.5 Acceptance of Items or Services

Items and services affecting the quality system are verified at receipt based on objective evidence supplied by the vendor. Supply items are reviewed by the requisitioner and, if acceptable, are accepted via annotation on the vendor packing list or similar document. Similarly, equipment services are accepted by the requisitioning lab person. Calibration services are accepted by QA based on certification reviews. (See Section 11.0.)

Data reports from analytical subcontractors are evaluated by Program Managers and subsequently by the Operations Manager (or designee) as part of client report reviews.

Items are not used until accepted and if items or services are rejected, QA is notified and nonconformance controls per Section 12.0 are followed. Vendors may be removed from the approved vendor's list if their performance is unacceptable.

9.0 TEST SAMPLE IDENTIFICATION AND CONTROL

9.1 Sample Identification

Incoming samples are inspected for customer identification, container condition, chain of custody forms, and radioactivity levels. If acceptable, the sample information is entered into LIMS which generates bar coded labels for attachment to the sample(s). The labels are attached and samples stored in the assigned location. If environmental controls are needed (refrigeration, freezing, etc.), the samples are placed in these storage locations. If not acceptable, the Program Manager is notified, the customer contacted, and the problem resolved (return of sample, added data receipts, etc.). See Procedure 4003 for more information on sample receipt.

9.2 LIMS

The LIMS is used to schedule work, provide special information to analysts, and record all actions taken on samples. See Procedure 4017 and the 6000 series of procedures for more information on LIMS operations.

9.3 Sample Control

The sample, with its bar coded label, is logged out to the applicable lab operation where the sample is processed per the applicable methods (Procedures 2000 and 3000). The LIMS-assigned numbers are used for identification through all operations to record data. Data is entered into LIMS, log books (kept by the analysts) or equipment data systems to record data. The combination of LIMS, logbooks, and equipment data systems provide the Chain of Custody data and document all actions taken on samples. Unused sample portions are returned to its storage area for possible verification use. Samples are discarded after required time limits are passed and after client notification and approval, if required.

10.0 SPECIAL PROCESSES, INSPECTION, AND TEST

10.1 Special Processes

The Laboratory's special processes are the methods used to analyze a sample and control equipment. These methods are defined in Procedures in the 2000 and 3000 series. These processes are performed to the qualified methods (see Section 7.0) by qualified people (see 4.0).

10.2 Inspections and Tests

The quality of the process is monitored by indirect means. This program involves calibration checks on counting equipments (see Section 11.0), intra-laboratory checks, and inter-laboratory checks. In addition, some customers submit quality control check samples (blinds, duplicates, external reference standards). All generated data gets independent reviews.

10.2.1 Intra Laboratory Checks (QC Checks)

The quantity and types of checks varies with the method, but basic checks which may include blanks, spiked blanks, matrix spikes, matrix spike duplicates, and duplicates are used as appropriate for customer samples. This process is described in Procedure 4005 and in Section 7.0.

10.2.2 Inter Laboratory Checks

TBE participates in Inter-lab performance evaluation (check) programs with multiple higher level labs. These programs provide blind matrices for the types of matrix/analyte combinations routinely processed by the Lab, if available. This program is described in Procedure 4006.

10.2.3 Data Reviews

Raw data and reports are reviewed by the Operations Manager, or designees. This review checks for data logic, expected results, procedure compliance, etc. (See Section 14.0).

10.3 Control of Sampling of Samples

Samples for analysis are supplied by customers preferably in quantities sufficient to allow re-verification analyses if needed. The samples are prepared for analysis by analysts and then an aliquot (partial sample extraction) is taken from the homogeneous customer sample for the initial analysis. Methods specify standard volumes of sample material required. Sampling data is recorded in LIMS and/or logbooks.

10.4 Reference Standards / Material

10.4.1 Weights and Temperatures

Reference standards are used by the Laboratory's calibration vendor to calibrate the Labs working instruments measuring weights and thermometers.

10.4.2 Radioactive Materials

Reference radioactive standards, traceable to NIST, are procured from higher level laboratories. These reference materials are maintained in the standards area and are diluted down for use by laboratory analysts. All original and diluted volumes are fully traceable to source, procedure, analyst, dilution, and acquisition dates. See Section 11.0 and Procedure 1009.

11.0 EQUIPMENT MAINTENANCE AND CALIBRATION

11.1 General

There are two types of equipment used by the Laboratory: support equipment (scales, glassware, weights, thermometers, etc.) and instruments for counting. Standards traceable to NIST are used for calibration and are of the needed accuracy for laboratory operations. Procedures 1009, 4018, and 4019 describe the calibration and maintenance programs.

11.2 Support Equipment

Analytical support equipment is purchased with the necessary accuracies and appropriate calibration data. If needed, initial calibration by the Laboratory or its calibration vendor is performed. Recalibration schedules are established and equipment recalibrated by the scheduled date by a calibration vendor or by Laboratory personnel. Maintenance is performed, as needed, per manufacturer's manuals or lab procedures.

In addition to calibrations and recalibrations, checks are made on the continued accuracy of items as described in Procedure 1009. Records are maintained of calibration and specified checks.

11.3 Instruments

Instruments receive initial calibration using radioactive sources traceable to NIST. The initial calibration establishes statistical limits of variation that are used to set control limits for future checks and recalibration. This process is described in Procedure 4018. Instruments are maintained per Instrument Manual requirements. Recalibrations are performed per the Procedure.

Between calibrations, check sources are used to assure no significant changes have occurred in the calibration of items. Background checks are performed to check for possible radioactive contamination. Background values are used to adjust sample results. Hardware and software are safeguarded from adjustments that could invalidate calibrations or results.

11.4 Nonconformances and Corrective Actions

If calibrations or checks indicate a problem, the nonconformance system (Section 12.0) and corrective action system (Section 13.0) are initiated to document the problem and its resolution. Equipment is promptly removed from service if questionable.

11.5 Records

Records of calibrations are maintained. Calibration certificates from calibration vendors are maintained by QA. Other calibration data and check data is maintained in log books, LIMS, or instrument software as appropriate and as described in Procedures 1009, 4018, and 4019.

12.0 NONCONFORMANCE CONTROLS

12.1 General

The nonconformance control system is implemented whenever a nonconforming condition on any aspect of Laboratory analysis, testing, or results exist. The system takes graded actions based on the nature and severity of the nonconformance. Nonconforming items or processes are controlled to prevent inadvertent use. Nonconformances are documented and dispositioned. Notification is made to affected organizations, including clients. Procedure 1010 describes the procedures followed. Sample results are only reported after resolution.

12.2 Responsibility and Authority

Each Laboratory employee has the responsibility to report nonconformances and the authority to stop performing nonconforming work or using nonconforming equipment. Laboratory supervision can disposition and take corrective actions on minor problems. Any significant problem is documented by QA using the Laboratory's NCR system per Procedure 1010. QA conducts or assures the conduct of cause analyses, disposition of items or data, and initiation of corrective action if the nonconformance could recur.

12.3 10CFR21 Reporting

The QA Manager reviews NCRs for possible need of customer and/or NRC notification per the requirements of 10CFR21. Procedure 1011 is followed in this review and **for** any required reporting. |

13.0 CORRECTIVE AND PREVENTIVE ACTIONS

13.1 General

The Laboratory takes corrective actions on significant nonconformances (see Section 12.0). It also initiates preventive and improvement actions per the Company Quality Policy (see Section 2.0). The procedures for Corrective Action/Preventive Action systems are contained in Procedure 1012.

13.2 Corrective Actions

Corrective actions are taken by Operations and Quality to promptly correct significant conditions adverse to quality. The condition is identified and cause analysis is performed to identify root causes. Solutions are evaluated and the optimum one selected that will prevent recurrence, can be implemented by the Laboratory, allows the Laboratory to meet its other goals, and is commensurate with the significance of the problem. All steps are documented, action plans developed for major efforts, and reports made to Management. QA verifies the implementation effectiveness. Procedure 1012 provides instructions and designates authorities and responsibilities.

13.3 Preventive Actions

Preventive actions are improvements intended to reduce the potential for nonconformances. Possible preventive actions are developed from suggestions from employees and from analysis of Laboratory technical and quality systems by management. If preventive actions or improvements are selected for investigation, the issues, investigation, recommendations, and implementation actions are documented. Follow up verifies effectiveness.

14.0 RESULTS ANALYSIS AND REPORTING

14.1 General

The Laboratory's role is to provide measurement-based information to clients that is technically valid, legally defensible, and of known quality.

14.2 Results Review

The results obtained from analytical efforts are collected and reviewed by the Operations Manager and the Program Manager. This review verifies the reasonableness and consistency of the results. It includes review of sample and the related QC activity data. Procedure 4002 describes the process. Any deficiencies are corrected by re-analyses, recalculations, or corrective actions per Sections 12.0 and 13.0. Use of the LIMS with its automatic data loading features (see Procedure 4017) minimizes the possibility of transcription or calculation errors.

14.3 Reports

Reports range from simple results reporting to elaborate analytical reports based on the client requirements and imposed specifications and standards. (See Procedure 4004.) Reports present results accurately, clearly, unambiguously, objectively, and as required by the applicable Method(s). Reports include reproduction restrictions, information on any deviations from methods, and any needed data qualifiers based on QC data. If any data is supplied by analytical subcontractors (see Section 8.0), it is clearly identified and attributed to that Laboratory by either name or accreditation number.

If results are faxed or transmitted electronically, confidentiality statements are included in case of receipt by other than the intended client.

Reports are approved by the Program Manager and Operations Manager and record copies kept in file (See Section 15.0).

15.0 RECORDS

15.1 General

The Laboratory collects generated data and information related to quality or technical data and maintains them as records. Records are identified, prepared, reviewed, placed in storage, and maintained as set forth in Procedure 1003.

15.2 Type of Records

All original observations, calculations, derived data, calibration data, and test reports are included. In addition QA data such as audits, management reviews, corrective and preventive actions, manuals, and procedures are included.

15.3 Storage and Retention

Records are stored in files after completion in the lab. Files are in specified locations and under the control of custodians. Filing systems provide for retrieval. Electronic files are kept on Company servers (with regular back up) or on media stored in fireproof file cabinets. Records are kept in Laboratory files for at least 2 years after the last entry and then in Company files for another year as a minimum. Some customers specify larger periods – up to 7 years – which is also met. Generic records supporting multiple customers are kept for the longest applicable period.

15.4 Destruction or Disposal

Records may be destroyed after the retention period and after client notification and acceptance, if required. If the Laboratory closes, records will go in to company storage in Huntsville unless otherwise directed by customers. If the Laboratory is sold, either the new owner will accept record ownership or the records will go into Company storage as stated above.

16.0 ASSESSMENTS

16.1 General

Assessments consist of internal audits and management reviews as set forth in Procedure 1013.

16.2 Audits

Internal audits are planned, performed at least annually on all areas of the quality system, and are performed by qualified people who are as independent as possible from the activity audited. (The Laboratory's small size inhibits full independence in some technical areas.) Audits are coordinated by the Quality Manager who assures audit plans and checklists are generated and the results documented. Reports include descriptions of any findings and provide the auditor's assessment of the effectiveness of the audited activity. Report data includes personnel contacted.

Audit findings are reviewed with management and corrective actions agreed to and scheduled. Follow up is performed by QA to verify accomplishment and effectiveness of the corrective action.

16.3 Management Reviews

The Annual Quality Assurance Report, prepared for some clients, is the Management Review vehicle. These reports cover audit results, corrective and preventive actions, external assessments, and QC and inter-laboratory performance checks. The report is reviewed with Management by the QA Manager for the continued suitability of the Quality Program and its effectiveness. Any needed improvements are defined, documented, and implemented. Follow ups are made to verify implementation and effectiveness.

APPENDIX D

LABORATORY ANALYTICAL REPORTS



2508 Quality Lane
Knoxville, TN 37931
865-690-6819 (Phone)

Work Order #: L28777

Exelon - Dresden

June 6, 2006



TELEDYNE
BROWN ENGINEERING, INC.

A Teledyne Technologies Company
2508 Quality Lane
Knoxville, TN 37931-3133

Kathy Shaw
Conestoga-Rovers & Associates
45 Farmington Valley Road
Plainville CT 06062

Case Narrative - L28777
EX001-3ESPDRES-06

06/06/2006 16:44

Sample Receipt

The following samples were received on May 30, 2006 in good condition, unless otherwise noted.

Cross Reference Table

| Client ID | Laboratory ID | Station ID(if applicable) |
|--------------------------------|---------------|---------------------------|
| WG-DN-DSP-DN-105-052306-JL-051 | L28777-1 | |
| WG-DN-DSP-DN-106-052306-JL-052 | L28777-2 | |
| WG-DN-DSP-DN-107-052306-JL-053 | L28777-3 | |
| WG-DN-DSP-152-052306-JH-001 | L28777-4 | |
| WG-DN-DSP-157M-052306-JH-002 | L28777-5 | |
| WG-DN-DSP-157S-052306-JH-003 | L28777-6 | |
| WG-DN-DSP-DN-150-052406-JL-054 | L28777-7 | |
| WG-DN-DSP-DN-151-052406-JL-055 | L28777-8 | |
| WG-DN-DSP-DN-108-052406-JL-056 | L28777-9 | |
| WG-DN-DSP-126-052406-JH-004 | L28777-10 | |
| WG-DN-DSP-153-052406-JH-005 | L28777-11 | |
| WG-DN-DSP-154-052506-JH-006 | L28777-12 | |
| WG-DN-DSP-158M-052506-JH-007 | L28777-13 | |
| WG-DN-DSP-158S-052506-JH-008 | L28777-14 | |
| WG-DN-DSP-159M-052506-JH-009 | L28777-15 | |

Analytical Method Cross Reference Table

| Radiological Parameter | TBE Knoxville Method | Reference Method |
|------------------------|----------------------|------------------|
| Gamma Spectrometry | TBE-2007 | EPA 901.1 |
| H-3 | TBE-2010 | EPA 906.0 |
| TOTAL SR | TBE-2018 | EPA 905.0 |



TELEDYNE
BROWN ENGINEERING, INC.
A Teledyne Technologies Company
2508 Quality Lane
Knoxville, TN 37931-3133

Case Narrative - L28777
EX001-3ESPDRES-06

06/06/2006 16:44

Gamma Spectroscopy

Quality Control

Quality control samples were analyzed as WG4063.

Duplicate Sample

Duplicates were analyzed for the following samples. All duplicate results were within acceptance limits, unless otherwise noted.

| <u>Client ID</u> | <u>Laboratory ID</u> | <u>QC Sample #</u> |
|------------------------------------|----------------------|--------------------|
| WG-DN-DSP-DN-105- 052306-JL-051 | L28777-1 | WG4063-1 |

H-3

Quality Control

Quality control samples were analyzed as WG4066.

Method Blank

All blanks were within acceptance limits, unless otherwise noted.

Laboratory Control Sample

All laboratory control samples were within acceptance limits, unless otherwise noted.

Duplicate Sample

Duplicates were analyzed for the following samples. All duplicate results were within acceptance limits, unless otherwise noted.

| <u>Client ID</u> | <u>Laboratory ID</u> | <u>QC Sample #</u> |
|------------------------------------|----------------------|--------------------|
| WG-DN-DSP-DN-105- 052306-JL-051 | L28777-1 | WG4066-3 |



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A Teledyne Technologies Company
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Knoxville, TN 37931-3133

Case Narrative - L28777
EX001-3ESPDRES-06

06/06/2006 16:44

TOTAL SR

Quality Control

Quality control samples were analyzed as WG4092.

Method Blank

All blanks were within acceptance limits, unless otherwise noted.

Laboratory Control Sample

All laboratory control samples were within acceptance limits, unless otherwise noted.

Duplicate Sample

Duplicates were analyzed for the following samples. All duplicate results were within acceptance limits, unless otherwise noted.


| <u>Client ID</u> | <u>Laboratory ID</u> | <u>QC Sample #</u> |
|------------------------------------|----------------------|--------------------|
| WG-DN-DSP-DN-105- 052306-JL-051 | L28777-1 | WG4092-3 |

Certification

This is to certify that Teledyne Brown Engineering - Environmental Services, located at 2508 Quality Lane, Knoxville, Tennessee, 37931, has analyzed, tested and documented samples as specified in the applicable purchase order.

This also certifies that requirements of applicable codes, standards and specifications have been fully met and that any quality assurance documentation which verified conformance to the purchase order is on file and may be examined upon request.

I hereby certify that the above statements are true and correct.



Keith Jeter
Operations Manager

Sample Receipt Summary

05/30/06 13:11

Teledyne Brown Engineering
Sample Receipt Verification/Variance Report

SR #: SR08626

Client: Exelon

Project #: EX001-3ESPDRES-06

LIMS #: L28777

Initiated By: BWILKERSON

Init Date: 05/30/06 Receive Date: 05/30/06

Notification of Variance

Person Notified:

Contacted By:

Notify Date:

Notify Method:

Notify Comment:

Client Response

Person Responding:

Response Date:

Response Method:

Response Comment

| Criteria | Yes | No | NA | Comment |
|--|-----|----|----|---|
| 1 Shipping container custody seals present and intact. | | | NA | |
| 2 Sample container custody seals present and intact. | | | NA | |
| 3 Sample containers received in good condition | | Y | | |
| 4 Chain of custody received with samples | | Y | | |
| 5 All samples listed on chain of custody received | | Y | | |
| 6 Sample container labels present and legible. WG-DN-DSP-159M-052506-JH-009 | | N | | Label on tritium bottle damaged, hard to read |
| 7 Information on container labels correspond with chain of custody | | Y | | |
| 8 Sample(s) properly preserved and in appropriate container(s) | | Y | | Ph at or below 2 |
| 9 Other (Describe) | | | NA | |

L 28777

CONESTOGA-ROVERS & ASSOCIATES



8615 W. Bryn Mawr Avenue
Chicago, Illinois 60631
(773)380-9933 phone
(773)380-6421 fax

SHIPPED TO
(Laboratory Name):

Teledyne Brown

REFERENCE NUMBER:
45136-23

PROJECT NAME:

~~EXELON~~ EXELON - DRESDEN

CHAIN-OF-CUSTODY RECORD

SAMPLER'S
SIGNATURE:

John Hoffmann

PRINTED
NAME:

John Hoffmann

No. OF
CONTAINERS

PARAMETERS

Tritium
Sr-90/90
Gamma Spec

REMARKS

SEQ.
No.

DATE

TIME

SAMPLE IDENTIFICATION No.

SAMPLE
MATRIX

| | | | | |
|---|---------|------|----------------------------------|-------|
| 1 | 5/23/06 | 1114 | WG-DN-DSP-152-052306- JH-001 | WATER |
| 2 | " | 1336 | WG-DN-DSP-157M-052306- JH-002 | " |
| 3 | " | 1550 | WG-DN-DSP-157S-052306- JH-003 | " |

2

X X X

2

X X X

2

X X X

TOTAL NUMBER OF CONTAINERS

RELINQUISHED BY:

①

John Hoffmann

DATE: 5/23/06
TIME: 18:00

RECEIVED BY:

②

Marcia Sevic (A. BRAGADO)

DATE: 5-23-06

TIME: 1800

RELINQUISHED BY:

②

WJ Rued

DATE: 5/26/06
TIME: 11:55

RECEIVED BY:

③

DATE:

TIME:

RELINQUISHED BY:

③

DATE:
TIME:

RECEIVED BY:

④

DATE:

TIME:

METHOD OF SHIPMENT:

AIR BILL No.

White -Fully Executed Copy
Yellow -Receiving Laboratory Copy
Pink -Shipper Copy
Goldenrod -Sampler Copy

SAMPLE TEAM:

John Hoffmann
marcia sevic

RECEIVED FOR LABORATORY BY:

Donna White

12758

DATE: TIME:

L28777

CONESTOGA-ROVERS & ASSOCIATES



8615 W. Bryn Mawr Avenue
Chicago, Illinois 60631
(773)380-9933 phone
(773)380-6421 fax

SHIPPED TO
(Laboratory Name):

Teledyne Brown

REFERENCE NUMBER:

45136-23

PROJECT NAME:

Exelon - Dresden

CHAIN-OF-CUSTODY RECORD

SAMPLER'S
SIGNATURE:

PRINTED
NAME:

john hoffmann

No. OF
CONTAINERS

PARAMETERS

Handwritten: Iridium
Sr-89/90
Gamma Spec.

REMARKS

SEQ.
No.

DATE

TIME

SAMPLE IDENTIFICATION No.

SAMPLE
MATRIX

1

5/25/06

0640

WG-DN-DSP-154-052506-

WATER

2

X X X

2

0940

WG-DN-DSP-158M-052506-

↓

↓

↓ ↓ ↓

3

1109

WG-DN-DSP-158S-052506-

↓

↓

↓ ↓ ↓

4

↓

1445

WG-DN-DSP-159M-052506-

↓

↓

↓ ↓ ↓

JH-006
JH-007
JH-008
JH-009

TOTAL NUMBER OF CONTAINERS

8

RELINQUISHED BY:

①

DATE: 5/25/06

TIME:

RECEIVED BY:

②

DATE: 5/25/06

TIME: 1805

RELINQUISHED BY:

②

DATE: 5/26/06

TIME: 1115

RECEIVED BY:

③

DATE:

TIME:

RELINQUISHED BY:

③

DATE:

TIME:

RECEIVED BY:

④

DATE:

TIME:

METHOD OF SHIPMENT:

AIR BILL No.

White -Fully Executed Copy
Yellow -Receiving Laboratory Copy
Pink -Shipper Copy
Goldenrod -Sampler Copy

SAMPLE TEAM:

john hoffmann
tim leo

RECEIVED FOR LABORATORY BY:

13745

DATE: TIME:

TELEDYNE BROWN ENGINEERING
2508 Quality Lane
Knoxville, TN 37931-3133

5/31/06

ACKNOWLEDGEMENT
This is not an invoice

May 30, 2006

Kathy Shaw
Conestoga-Rovers & Associates
45 Farmington Valley Road
Plainville, CT 06062

The following sample(s) were received at Teledyne Brown Engineering Knoxville laboratory on May 30, 2006. The sample(s) have been scheduled for the analyses listed below and the report is scheduled for completion by June 06, 2006. Please review the following login information and pricing. Contact me if anything is incorrect or you have questions about the status of your sample(s).

Thank you for choosing Teledyne Brown Engineering for your analytical needs.

Sincerely,
Rebecca Charles
Project Manager
(865) 934-0379

Project ID: EX001-3ESPDRES-06
P.O. #: 00411203
Release #:
Contract#: 00411203
Kathy Shaw, FAX#: 860-747-1900, larry.walton@exeloncorp.com

| Client ID/ Station | Laboratory ID Analysis | Vol/Units Price | Start Collect Date/Time | End Collect Date/Time |
|---------------------------------------|---------------------------|--------------------|----------------------------|--------------------------|
| WG-DN-DSP-DN-105-052306-JL-0 L28777-1 | | | 05/23/06:1130 | |
| WG | GELI | 108.00 | | |
| WG | H-3 | 108.00 | | |
| WG | SR-90 (FAST) | 140.00 | | |
| WG-DN-DSP-DN-106-052306-JL-0 L28777-2 | | | 05/23/06:1230 | |
| WG | GELI | 108.00 | | |
| WG | H-3 | 108.00 | | |
| WG | SR-90 (FAST) | 140.00 | | |
| WG-DN-DSP-DN107-052306-JL-05 L28777-3 | | | 05/23/06:1350 | |
| WG | GELI | 108.00 | | |
| WG | H-3 | 108.00 | | |
| WG | SR-90 (FAST) | 140.00 | | |
| WG-DN-DSP-152-052306-JH-001 L28777-4 | | | 05/23/06:1114 | |
| WG | GELI | 108.00 | | |
| WG | H-3 | 108.00 | | |
| WG | SR-90 (FAST) | 140.00 | | |
| WG-DN-DSP-157M-052306-JH-002 L28777-5 | | | 05/23/06:1336 | |

| Client ID/ Station | Laboratory ID Analysis | Vol/Units Price | Start Collect Date/Time | End Collect Date/Time |
|--|---------------------------|--------------------|----------------------------|--------------------------|
| WG | GELI | 108.00 | | |
| WG | H-3 | 108.00 | | |
| WG | SR-90 (FAST) | 140.00 | | |
| WG-DN-DSP-157S-052306-JH-003 L28777-6 | | | 05/23/06:1550 | |
| WG | GELI | 108.00 | | |
| WG | H-3 | 108.00 | | |
| WG | SR-90 (FAST) | 140.00 | | |
| WG-DN-DSP-DN-150-052406-JL-0 L28777-7 | | | 05/24/06:1225 | |
| WG | GELI | 108.00 | | |
| WG | H-3 | 108.00 | | |
| WG | SR-90 (FAST) | 140.00 | | |
| WG-DN-DSP-DN-151-052406-JL-0 L28777-8 | | | 05/24/06:1415 | |
| WG | GELI | 108.00 | | |
| WG | H-3 | 108.00 | | |
| WG | SR-90 (FAST) | 140.00 | | |
| WG-DN-DSP-DN-108-052406-JL-0 L28777-9 | | | 05/24/06:1705 | |
| WG | GELI | 108.00 | | |
| WG | H-3 | 108.00 | | |
| WG | SR-90 (FAST) | 140.00 | | |
| WG-DN-DSP-126-052406-JH-004 L28777-10 | | | 05/24/06:1137 | |
| WG | GELI | 108.00 | | |
| WG | H-3 | 108.00 | | |
| WG | SR-90 (FAST) | 140.00 | | |
| WG-DN-DSP-153-052406-JH-005 L28777-11 | | | 05/24/06:1320 | |
| WG | GELI | 108.00 | | |
| WG | H-3 | 108.00 | | |
| WG | SR-90 (FAST) | 140.00 | | |
| WG-DN-DSP-154-052506-JH-006 L28777-12 | | | 05/25/06:0640 | |
| WG | GELI | 108.00 | | |
| WG | H-3 | 108.00 | | |
| WG | SR-90 (FAST) | 140.00 | | |
| WG-DN-DSP-158M-052506-JH-007 L28777-13 | | | 05/25/06:0940 | |
| WG | GELI | 108.00 | | |
| WG | H-3 | 108.00 | | |
| WG | SR-90 (FAST) | 140.00 | | |
| WG-DN-DSP-158S-052506-JH-008 L28777-14 | | | 05/25/06:1109 | |
| WG | GELI | 108.00 | | |
| WG | H-3 | 108.00 | | |
| WG | SR-90 (FAST) | 140.00 | | |

| Client ID/ Station | Laboratory ID Analysis | Vol/Units Price | Start Collect Date/Time | End Collect Date/Time |
|------------------------------|---------------------------|--------------------|----------------------------|--------------------------|
| WG-DN-DSP-159M-052506-JH-009 | L28777-15 | | 05/25/06:1445 | |
| WG | GELI | 108.00 | | |
| WG | H-3 | 108.00 | | |
| WG | SR-90 (FAST) | 140.00 | | |

End of document

Charles, Rebecca

From: Charles, Rebecca

Sent: Monday, June 05, 2006 6:07 PM

To: 'Larry.Walton@exeloncorp.com'; 'Zigmund.Karpa@exeloncorp.com'; 'Joyce.Tomlinson@exeloncorp.com'

Subject: High results for Dresden tritiums

High notification. These samples are scheduled to be reported tomorrow. I will give you further status in the morning.

L28777-2, WG-DN-DSP-DN-106-052306-JL-052 exceeded flag values for WG,H-3, 2370 pCi/l **HIGH
L28777-3, WG-DN-DSP-DN107-052306-JL-053 exceeded flag values for WG,H-3, 9820 pCi/l **HIGH

Rebecca Charles
Teledyne Brown Engineering
Project Manager
(865) 934-0379
(865) 934-0396 (fax)

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6/6/2006

Internal Chain of Custody

06/06/06 16:45

Teledyne Brown Engineering
Internal Chain of Custody

L28777 17 of 127
Page: 1 of 7

Sample # L28777-1 Containernum 1

Prod Analyst
GELI DW
H-3 DW
SR-90 (FAST) CJF

Relinquish Date Relinquish By Received By
05/30/2006 00:00 099999 Sample Custodian

Sample # L28777-1 Containernum 2

Prod Analyst
GELI DW
H-3 DW
SR-90 (FAST) CJF

Relinquish Date Relinquish By Received By
05/30/2006 00:00 099999 Sample Custodian
05/30/2006 16:42 099999 Sample Custodian 030854 Donna Webb
05/30/2006 16:43 030854 Donna Webb 029728 Lauren Larsen
06/02/2006 08:59 029728 Lauren Larsen 030854 Donna Webb
06/02/2006 09:00 030854 Donna Webb 099999 Sample Custodian

Sample # L28777-2 Containernum 1

Prod Analyst
GELI DW
H-3 DW
SR-90 (FAST) CJF

Relinquish Date Relinquish By Received By
05/30/2006 00:00 099999 Sample Custodian

Sample # L28777-2 Containernum 2

Prod Analyst
GELI DW
H-3 DW
SR-90 (FAST) CJF

Relinquish Date Relinquish By Received By
05/30/2006 00:00 099999 Sample Custodian
05/30/2006 16:42 099999 Sample Custodian 030854 Donna Webb
05/30/2006 16:43 030854 Donna Webb 029728 Lauren Larsen
06/02/2006 08:59 029728 Lauren Larsen 030854 Donna Webb
06/02/2006 09:00 030854 Donna Webb 099999 Sample Custodian

Sample # L28777-3 Containernum 1

Prod Analyst
GELI DW
H-3 DW
SR-90 (FAST) CJF

Relinquish Date Relinquish By Received By

06/06/06 16:45

Teledyne Brown Engineering

Internal Chain of Custody

Sample # L28777-3 Containernum 1

Relinquish Date

Received By

05/30/2006 00:00

099999

Sample Custodian

Sample # L28777-3 Containernum 2

Prod Analyst
GELI DW
H-3 DW
SR-90 (FAST) CJF

Relinquish Date Relinquish By

Received By

05/30/2006 00:00

099999

Sample Custodian

05/30/2006 16:42 099999 Sample Custodian

030854

Donna Webb

05/30/2006 16:43 030854 Donna Webb

029728

Lauren Larsen

06/02/2006 08:59 029728 Lauren Larsen

030854

Donna Webb

06/02/2006 09:00 030854 Donna Webb

099999

Sample Custodian

Sample # L28777-4 Containernum 1

Prod Analyst
GELI DW
H-3 DW
SR-90 (FAST) CJF

Relinquish Date Relinquish By

Received By

05/30/2006 00:00

099999

Sample Custodian

Sample # L28777-4 Containernum 2

Prod Analyst
GELI DW
H-3 DW
SR-90 (FAST) CJF

Relinquish Date Relinquish By

Received By

05/30/2006 00:00

099999

Sample Custodian

05/30/2006 16:42 099999 Sample Custodian

030854

Donna Webb

05/30/2006 16:43 030854 Donna Webb

029728

Lauren Larsen

06/02/2006 08:59 029728 Lauren Larsen

030854

Donna Webb

06/02/2006 09:00 030854 Donna Webb

099999

Sample Custodian

Sample # L28777-5 Containernum 1

Prod Analyst
GELI DW
H-3 DW
SR-90 (FAST) CJF

Relinquish Date Relinquish By

Received By

05/30/2006 00:00

099999

Sample Custodian

Sample # L28777-5 Containernum 2

Prod Analyst
GELI DW

06/06/06 16:45

Teledyne Brown Engineering
Internal Chain of Custody

Sample # L28777-5 Containernum 2

H-3 DW
SR-90 (FAST) CJF

| Relinquish Date | Relinquish By | | Received By | Sample Custodian |
|------------------|---------------|------------------|-------------|------------------|
| 05/30/2006 00:00 | | | 099999 | |
| 05/30/2006 16:42 | 099999 | Sample Custodian | 030854 | Donna Webb |
| 05/30/2006 16:43 | 030854 | Donna Webb | 029728 | Lauren Larsen |
| 06/02/2006 08:59 | 029728 | Lauren Larsen | 030854 | Donna Webb |
| 06/02/2006 09:00 | 030854 | Donna Webb | 099999 | Sample Custodian |

Sample # L28777-6 Containernum 1

Prod Analyst
GELI DW
H-3 DW
SR-90 (FAST) CJF

| Relinquish Date | Relinquish By | | Received By | Sample Custodian |
|------------------|---------------|--|-------------|------------------|
| 05/30/2006 00:00 | | | 099999 | |

Sample # L28777-6 Containernum 2

Prod Analyst
GELI DW
H-3 DW
SR-90 (FAST) CJF

| Relinquish Date | Relinquish By | | Received By | Sample Custodian |
|------------------|---------------|------------------|-------------|------------------|
| 05/30/2006 00:00 | | | 099999 | |
| 05/30/2006 16:42 | 099999 | Sample Custodian | 030854 | Donna Webb |
| 05/30/2006 16:43 | 030854 | Donna Webb | 029728 | Lauren Larsen |
| 06/02/2006 08:59 | 029728 | Lauren Larsen | 030854 | Donna Webb |
| 06/02/2006 09:00 | 030854 | Donna Webb | 099999 | Sample Custodian |

Sample # L28777-7 Containernum 1

Prod Analyst
GELI DW
H-3 DW
SR-90 (FAST) CJF

| Relinquish Date | Relinquish By | | Received By | Sample Custodian |
|------------------|---------------|--|-------------|------------------|
| 05/30/2006 00:00 | | | 099999 | |

Sample # L28777-7 Containernum 2

Prod Analyst
GELI DW
H-3 DW
SR-90 (FAST) CJF

| Relinquish Date | Relinquish By | | Received By | Sample Custodian |
|------------------|---------------|--|-------------|------------------|
| 05/30/2006 00:00 | | | 099999 | |

06/06/06 16:45

Teledyne Brown Engineering
Internal Chain of Custody*****
Sample # L28777-7 Containernum 2

| Relinquish Date | | Sample Custodian | Received By | |
|------------------|--------|------------------|-------------|------------------|
| 05/30/2006 16:42 | 099999 | Sample Custodian | 030854 | Donna Webb |
| 05/30/2006 16:43 | 030854 | Donna Webb | 029728 | Lauren Larsen |
| 06/02/2006 08:59 | 029728 | Lauren Larsen | 030854 | Donna Webb |
| 06/02/2006 09:00 | 030854 | Donna Webb | 099999 | Sample Custodian |

Sample # L28777-8 Containernum 1

| Prod | Analyst |
|--------------|---------|
| GELI | DW |
| H-3 | DW |
| SR-90 (FAST) | CJF |

| Relinquish Date | Relinquish By | Received By | |
|------------------|---------------|-------------|------------------|
| 05/30/2006 00:00 | | 099999 | Sample Custodian |

Sample # L28777-8 Containernum 2

| Prod | Analyst |
|--------------|---------|
| GELI | DW |
| H-3 | DW |
| SR-90 (FAST) | CJF |

| Relinquish Date | Relinquish By | Received By | |
|------------------|---------------|------------------|------------------|
| 05/30/2006 00:00 | | 099999 | Sample Custodian |
| 05/30/2006 16:42 | 099999 | Sample Custodian | 030854 |
| 05/30/2006 16:43 | 030854 | Donna Webb | 029728 |
| 06/02/2006 08:59 | 029728 | Lauren Larsen | 030854 |
| 06/02/2006 09:00 | 030854 | Donna Webb | 099999 |

Sample # L28777-9 Containernum 1

| Prod | Analyst |
|--------------|---------|
| GELI | DW |
| H-3 | DW |
| SR-90 (FAST) | CJF |

| Relinquish Date | Relinquish By | Received By | |
|------------------|---------------|-------------|------------------|
| 05/30/2006 00:00 | | 099999 | Sample Custodian |

Sample # L28777-9 Containernum 2

| Prod | Analyst |
|--------------|---------|
| GELI | DW |
| H-3 | DW |
| SR-90 (FAST) | CJF |

| Relinquish Date | Relinquish By | Received By | |
|------------------|---------------|------------------|------------------|
| 05/30/2006 00:00 | | 099999 | Sample Custodian |
| 05/30/2006 16:42 | 099999 | Sample Custodian | 030854 |
| 05/30/2006 16:43 | 030854 | Donna Webb | 029728 |
| 06/02/2006 08:59 | 029728 | Lauren Larsen | 030854 |
| 06/02/2006 09:00 | 030854 | Donna Webb | 099999 |

06/06/06 16:45

Teledyne Brown Engineering
Internal Chain of Custody*****
Sample # L28777-10 Containernum 1Prod Analyst
GELI DW
H-3 DW
SR-90 (FAST) CJFRelinquish Date Relinquish By
05/30/2006 00:00Received By
099999 Sample Custodian*****
Sample # L28777-10 Containernum 2Prod Analyst
GELI DW
H-3 DW
SR-90 (FAST) CJFRelinquish Date Relinquish By
05/30/2006 00:00Received By
099999 Sample Custodian05/30/2006 16:42 099999 Sample Custodian
05/30/2006 16:43 030854 Donna Webb
06/02/2006 08:59 029728 Lauren Larsen
06/02/2006 09:00 030854 Donna Webb030854 Donna Webb
029728 Lauren Larsen
030854 Donna Webb
099999 Sample Custodian*****
Sample # L28777-11 Containernum 1Prod Analyst
GELI DW
H-3 DW
SR-90 (FAST) CJFRelinquish Date Relinquish By
05/30/2006 00:00Received By
099999 Sample Custodian*****
Sample # L28777-11 Containernum 2Prod Analyst
GELI DW
H-3 DW
SR-90 (FAST) CJFRelinquish Date Relinquish By
05/30/2006 00:00Received By
099999 Sample Custodian05/30/2006 16:42 099999 Sample Custodian
05/30/2006 16:43 030854 Donna Webb
06/02/2006 08:59 029728 Lauren Larsen
06/02/2006 09:00 030854 Donna Webb030854 Donna Webb
029728 Lauren Larsen
030854 Donna Webb
099999 Sample Custodian*****
Sample # L28777-12 Containernum 1Prod Analyst
GELI DW
H-3 DW
SR-90 (FAST) CJF

Relinquish Date Relinquish By

Received By

06/06/06 16:45

Teledyne Brown Engineering

Internal Chain of Custody

Sample # L28777-12 Containernum 1

| | |
|------------------|--------------------------------------|
| Relinquish Date | Received By |
| 05/30/2006 00:00 | 099999 Sample Custodian |

Sample # L28777-12 Containernum 2

| | |
|--------------|---------|
| Prod | Analyst |
| GELI | DW |
| H-3 | DW |
| SR-90 (FAST) | CJF |

| | | | |
|------------------|---------------|-------------|------------------|
| Relinquish Date | Relinquish By | Received By | Sample Custodian |
| 05/30/2006 00:00 | | 099999 | |
| 05/30/2006 16:42 | 099999 | 030854 | Donna Webb |
| 05/30/2006 16:43 | 030854 | 029728 | Lauren Larsen |
| 06/02/2006 08:59 | 029728 | 030854 | Donna Webb |
| 06/02/2006 09:00 | 030854 | 099999 | Sample Custodian |

Sample # L28777-13 Containernum 1

| | |
|--------------|---------|
| Prod | Analyst |
| GELI | DW |
| H-3 | DW |
| SR-90 (FAST) | CJF |

| | | | |
|------------------|---------------|-------------|------------------|
| Relinquish Date | Relinquish By | Received By | Sample Custodian |
| 05/30/2006 00:00 | | 099999 | |

Sample # L28777-13 Containernum 2

| | |
|--------------|---------|
| Prod | Analyst |
| GELI | DW |
| H-3 | DW |
| SR-90 (FAST) | CJF |

| | | | |
|------------------|---------------|-------------|------------------|
| Relinquish Date | Relinquish By | Received By | Sample Custodian |
| 05/30/2006 00:00 | | 099999 | |
| 05/30/2006 16:42 | 099999 | 030854 | Donna Webb |
| 05/30/2006 16:43 | 030854 | 029728 | Lauren Larsen |
| 06/02/2006 08:59 | 029728 | 030854 | Donna Webb |
| 06/02/2006 09:00 | 030854 | 099999 | Sample Custodian |

Sample # L28777-14 Containernum 1

| | |
|--------------|---------|
| Prod | Analyst |
| GELI | DW |
| H-3 | DW |
| SR-90 (FAST) | CJF |

| | | | |
|------------------|---------------|-------------|------------------|
| Relinquish Date | Relinquish By | Received By | Sample Custodian |
| 05/30/2006 00:00 | | 099999 | |

Sample # L28777-14 Containernum 2

| | |
|------|---------|
| Prod | Analyst |
| GELI | DW |

06/06/06 16:45

Teledyne Brown Engineering
Internal Chain of Custody*****
Sample # L28777-14 Containernum 2H-3 DW
SR-90 (FAST) CJF

| Relinquish Date | Relinquish By | | Received By | |
|------------------|---------------|------------------|-------------|------------------|
| 05/30/2006 00:00 | | | 099999 | Sample Custodian |
| 05/30/2006 16:42 | 099999 | Sample Custodian | 030854 | Donna Webb |
| 05/30/2006 16:43 | 030854 | Donna Webb | 029728 | Lauren Larsen |
| 06/02/2006 08:59 | 029728 | Lauren Larsen | 030854 | Donna Webb |
| 06/02/2006 09:00 | 030854 | Donna Webb | 099999 | Sample Custodian |

Sample # L28777-15 Containernum 1Prod Analyst
GELI DW
H-3 DW
SR-90 (FAST) CJF

| Relinquish Date | Relinquish By | | Received By | |
|------------------|---------------|--|-------------|------------------|
| 05/30/2006 00:00 | | | 099999 | Sample Custodian |

Sample # L28777-15 Containernum 2Prod Analyst
GELI DW
H-3 DW
SR-90 (FAST) CJF

| Relinquish Date | Relinquish By | | Received By | |
|------------------|---------------|------------------|-------------|------------------|
| 05/30/2006 00:00 | | | 099999 | Sample Custodian |
| 05/30/2006 16:42 | 099999 | Sample Custodian | 030854 | Donna Webb |
| 05/30/2006 16:43 | 030854 | Donna Webb | 029728 | Lauren Larsen |
| 06/02/2006 08:59 | 029728 | Lauren Larsen | 030854 | Donna Webb |
| 06/02/2006 09:00 | 030854 | Donna Webb | 099999 | Sample Custodian |

06/06/06

Teledyne Brown Engineering
Internal Chain of Custody
Supplemental Sheet

Page 1 of 4

L28777

L28777-1 WG WG-DN-DSP-DN-105-052306-JL-051

| <u>Process step</u> | <u>Prod</u> | <u>Analyst</u> | <u>Date</u> |
|---------------------|--------------|----------------|-------------|
| Login | | BWILKERSON | 05/30/06 |
| Aliquot | GELI | DW | 05/30/06 |
| Aliquot | H-3 | DW | 05/31/06 |
| Aliquot | SR-90 (FAST) | CJF | 06/05/06 |
| Count Room | GELI | ILL | 06/01/06 |
| Count Room | H-3 | KOJ | 06/02/06 |
| Count Room | SR-90 (FAST) | KOJ | 06/06/06 |

L28777-2 WG WG-DN-DSP-DN-106-052306-JL-052

| <u>Process step</u> | <u>Prod</u> | <u>Analyst</u> | <u>Date</u> |
|---------------------|--------------|----------------|-------------|
| Login | | BWILKERSON | 05/30/06 |
| Aliquot | GELI | DW | 05/30/06 |
| Aliquot | H-3 | DW | 05/31/06 |
| Aliquot | SR-90 (FAST) | CJF | 06/05/06 |
| Count Room | GELI | ILL | 06/01/06 |
| Count Room | H-3 | KOJ | 06/02/06 |
| Count Room | SR-90 (FAST) | KOJ | 06/06/06 |

L28777-3 WG WG-DN-DSP-DN107-052306-JL-053

| <u>Process step</u> | <u>Prod</u> | <u>Analyst</u> | <u>Date</u> |
|---------------------|--------------|----------------|-------------|
| Login | | BWILKERSON | 05/30/06 |
| Aliquot | GELI | DW | 05/30/06 |
| Aliquot | H-3 | DW | 05/31/06 |
| Aliquot | SR-90 (FAST) | CJF | 06/05/06 |
| Count Room | GELI | ILL | 06/01/06 |
| Count Room | H-3 | KOJ | 06/02/06 |
| Count Room | SR-90 (FAST) | KOJ | 06/06/06 |

L28777-4 WG WG-DN-DSP-152-052306-JH-001

| <u>Process step</u> | <u>Prod</u> | <u>Analyst</u> | <u>Date</u> |
|---------------------|--------------|----------------|-------------|
| Login | | BWILKERSON | 05/30/06 |
| Aliquot | GELI | DW | 05/30/06 |
| Aliquot | H-3 | DW | 05/31/06 |
| Aliquot | SR-90 (FAST) | CJF | 06/05/06 |
| Count Room | GELI | ILL | 06/01/06 |
| Count Room | H-3 | KOJ | 06/02/06 |
| Count Room | SR-90 (FAST) | KOJ | 06/06/06 |

L28777-5 WG WG-DN-DSP-157M-052306-JH-002

| <u>Process step</u> | <u>Prod</u> | <u>Analyst</u> | <u>Date</u> |
|---------------------|--------------|----------------|-------------|
| Login | | BWILKERSON | 05/30/06 |
| Aliquot | GELI | DW | 05/30/06 |
| Aliquot | H-3 | DW | 05/31/06 |
| Aliquot | SR-90 (FAST) | CJF | 06/05/06 |
| Count Room | GELI | ILL | 06/01/06 |

06/06/06

Teledyne Brown Engineering
Internal Chain of Custody
Supplemental Sheet

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L28777-5 WG WG-DN-DSP-157M-052306-JH-002

| | | | |
|------------|--------------|-----|----------|
| Count Room | H-3 | KOJ | 06/02/06 |
| Count Room | SR-90 (FAST) | KOJ | 06/06/06 |

L28777-6 WG WG-DN-DSP-157S-052306-JH-003

| <u>Process step</u> | <u>Prod</u> | <u>Analyst</u> | <u>Date</u> |
|---------------------|--------------|----------------|-------------|
| Login | | BWILKERSON | 05/30/06 |
| Aliquot | GELI | DW | 05/30/06 |
| Aliquot | H-3 | DW | 05/31/06 |
| Aliquot | SR-90 (FAST) | CJF | 06/05/06 |
| Count Room | GELI | ILL | 06/01/06 |
| Count Room | H-3 | KOJ | 06/02/06 |
| Count Room | SR-90 (FAST) | KOJ | 06/06/06 |

L28777-7 WG WG-DN-DSP-DN-150-052406-JL-054

| <u>Process step</u> | <u>Prod</u> | <u>Analyst</u> | <u>Date</u> |
|---------------------|--------------|----------------|-------------|
| Login | | BWILKERSON | 05/30/06 |
| Aliquot | GELI | DW | 05/30/06 |
| Aliquot | H-3 | DW | 05/31/06 |
| Aliquot | SR-90 (FAST) | CJF | 06/05/06 |
| Count Room | GELI | ILL | 06/01/06 |
| Count Room | H-3 | KOJ | 06/02/06 |
| Count Room | SR-90 (FAST) | KOJ | 06/06/06 |

L28777-8 WG WG-DN-DSP-DN-151-052406-JL-055

| <u>Process step</u> | <u>Prod</u> | <u>Analyst</u> | <u>Date</u> |
|---------------------|--------------|----------------|-------------|
| Login | | BWILKERSON | 05/30/06 |
| Aliquot | GELI | DW | 05/30/06 |
| Aliquot | H-3 | DW | 05/31/06 |
| Aliquot | SR-90 (FAST) | CJF | 06/05/06 |
| Count Room | GELI | KPW | 06/01/06 |
| Count Room | H-3 | KOJ | 06/02/06 |
| Count Room | SR-90 (FAST) | KOJ | 06/06/06 |

L28777-9 WG WG-DN-DSP-DN-108-052406-JL-056

| <u>Process step</u> | <u>Prod</u> | <u>Analyst</u> | <u>Date</u> |
|---------------------|--------------|----------------|-------------|
| Login | | BWILKERSON | 05/30/06 |
| Aliquot | GELI | DW | 05/30/06 |
| Aliquot | H-3 | DW | 05/31/06 |
| Aliquot | SR-90 (FAST) | CJF | 06/05/06 |
| Count Room | GELI | KPW | 06/01/06 |
| Count Room | H-3 | KOJ | 06/02/06 |
| Count Room | SR-90 (FAST) | KOJ | 06/06/06 |

L28777-10 WG WG-DN-DSP-126-052406-JH-004

| <u>Process step</u> | <u>Prod</u> | <u>Analyst</u> | <u>Date</u> |
|---------------------|-------------|----------------|-------------|
| Login | | BWILKERSON | 05/30/06 |

06/06/06

Teledyne Brown Engineering
Internal Chain of Custody
Supplemental Sheet

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L28777-10 WG WG-DN-DSP-126-052406-JH-004

| | | | |
|------------|--------------|-----|----------|
| Aliquot | GELI | DW | 05/30/06 |
| Aliquot | H-3 | DW | 05/31/06 |
| Aliquot | SR-90 (FAST) | CJF | 06/05/06 |
| Count Room | GELI | KPW | 06/01/06 |
| Count Room | H-3 | KOJ | 06/02/06 |
| Count Room | SR-90 (FAST) | KOJ | 06/06/06 |

L28777-11 WG WG-DN-DSP-153-052406-JH-005

| <u>Process step</u> | <u>Prod</u> | <u>Analyst</u> | <u>Date</u> |
|---------------------|--------------|----------------|-------------|
| Login | | BWILKERSON | 05/30/06 |
| Aliquot | GELI | DW | 05/30/06 |
| Aliquot | H-3 | DW | 05/31/06 |
| Aliquot | SR-90 (FAST) | CJF | 06/05/06 |
| Count Room | GELI | KPW | 06/01/06 |
| Count Room | H-3 | KOJ | 06/02/06 |
| Count Room | SR-90 (FAST) | KOJ | 06/06/06 |

L28777-12 WG WG-DN-DSP-154-052506-JH-006

| <u>Process step</u> | <u>Prod</u> | <u>Analyst</u> | <u>Date</u> |
|---------------------|--------------|----------------|-------------|
| Login | | BWILKERSON | 05/30/06 |
| Aliquot | GELI | DW | 05/30/06 |
| Aliquot | H-3 | DW | 05/31/06 |
| Aliquot | SR-90 (FAST) | CJF | 06/05/06 |
| Count Room | GELI | KPW | 06/01/06 |
| Count Room | H-3 | KOJ | 06/03/06 |
| Count Room | SR-90 (FAST) | KOJ | 06/06/06 |

L28777-13 WG WG-DN-DSP-158M-052506-JH-007

| <u>Process step</u> | <u>Prod</u> | <u>Analyst</u> | <u>Date</u> |
|---------------------|--------------|----------------|-------------|
| Login | | BWILKERSON | 05/30/06 |
| Aliquot | GELI | DW | 05/30/06 |
| Aliquot | H-3 | DW | 05/31/06 |
| Aliquot | SR-90 (FAST) | CJF | 06/05/06 |
| Count Room | GELI | KPW | 06/01/06 |
| Count Room | H-3 | KOJ | 06/03/06 |
| Count Room | SR-90 (FAST) | KOJ | 06/06/06 |

L28777-14 WG WG-DN-DSP-158S-052506-JH-008

| <u>Process step</u> | <u>Prod</u> | <u>Analyst</u> | <u>Date</u> |
|---------------------|--------------|----------------|-------------|
| Login | | BWILKERSON | 05/30/06 |
| Aliquot | GELI | DW | 05/30/06 |
| Aliquot | H-3 | DW | 05/31/06 |
| Aliquot | SR-90 (FAST) | CJF | 06/05/06 |
| Count Room | GELI | KPW | 06/01/06 |
| Count Room | H-3 | KOJ | 06/03/06 |
| Count Room | SR-90 (FAST) | KOJ | 06/06/06 |

06/06/06

Teledyne Brown Engineering
Internal Chain of Custody
Supplemental Sheet

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L28777-15 WG WG-DN-DSP-159M-052506-JH-009

| <u>Process step</u> | <u>Prod</u> | <u>Analyst</u> | <u>Date</u> |
|---------------------|--------------|----------------|-------------|
| Login | | BWILKERSON | 05/30/06 |
| Aliquot | GELI | DW | 05/30/06 |
| Aliquot | H-3 | DW | 05/31/06 |
| Aliquot | SR-90 (FAST) | CJF | 06/05/06 |
| Count Room | GELI | ILL | 06/02/06 |
| Count Room | H-3 | KOJ | 06/03/06 |
| Count Room | SR-90 (FAST) | KOJ | 06/06/06 |

Analytical Results Summary

Report of Analysis

06/06/06 16:38

L28777

Conestoga-Rovers & Associates

EX001-3ESPDRES-06



TELEDYNE
BROWN ENGINEERING, INC.
A Teledyne Technologies Company

Kathy Shaw

Sample ID: WG-DN-DSP-DN-105-052306-JL-051

Station:

Description:

LIMS Number: L28777-1

Collect Start: 05/23/2006 11:30

Collect Stop:

Receive Date: 05/30/2006

Matrix: Ground Water (WG)

Volume:

% Moisture:

| Radionuclide | SOP# | Activity Conc | Uncertainty 2 Sigma | MDC | Units | Run # | Aliquot Volume | Aliquot Units | Reference Date | Count Date | Count Time | Count Units | Flag Values | | |
|--------------|------|---------------|---------------------|----------|-------|-------|----------------|---------------|----------------|------------|------------|-------------|-------------|--|----|
| H-3 | 2010 | 3.19E+02 | 1.17E+02 | 1.58E+02 | pCi/L | | 10 | ml | | 06/02/06 | 60 | M | + | | |
| TOTAL SR | 2018 | 5.25E-01 | 6.56E-01 | 1.22E+00 | pCi/L | | 450 | ml | 05/23/06 11:30 | 06/06/06 | 150 | M | U | | |
| MN-54 | 2007 | 6.59E-01 | 3.19E+00 | 5.38E+00 | pCi/L | | 3556.18 | ml | 05/23/06 11:30 | 06/01/06 | 9001 | Sec | U | | No |
| CO-58 | 2007 | 9.87E-01 | 3.36E+00 | 5.71E+00 | pCi/L | | 3556.18 | ml | 05/23/06 11:30 | 06/01/06 | 9001 | Sec | U | | No |
| FE-59 | 2007 | 6.76E-01 | 7.17E+00 | 1.20E+01 | pCi/L | | 3556.18 | ml | 05/23/06 11:30 | 06/01/06 | 9001 | Sec | U | | No |
| CO-60 | 2007 | -3.50E-01 | 3.76E+00 | 6.41E+00 | pCi/L | | 3556.18 | ml | 05/23/06 11:30 | 06/01/06 | 9001 | Sec | U | | No |
| ZN-65 | 2007 | 5.24E+00 | 7.34E+00 | 1.29E+01 | pCi/L | | 3556.18 | ml | 05/23/06 11:30 | 06/01/06 | 9001 | Sec | U | | No |
| NB-95 | 2007 | 2.38E+00 | 3.24E+00 | 5.61E+00 | pCi/L | | 3556.18 | ml | 05/23/06 11:30 | 06/01/06 | 9001 | Sec | U | | No |
| ZR-95 | 2007 | -6.41E+00 | 6.01E+00 | 8.78E+00 | pCi/L | | 3556.18 | ml | 05/23/06 11:30 | 06/01/06 | 9001 | Sec | U | | No |
| CS-134 | 2007 | 1.56E+00 | 4.97E+00 | 5.70E+00 | pCi/L | | 3556.18 | ml | 05/23/06 11:30 | 06/01/06 | 9001 | Sec | U | | No |
| CS-137 | 2007 | 6.72E-01 | 3.49E+00 | 5.81E+00 | pCi/L | | 3556.18 | ml | 05/23/06 11:30 | 06/01/06 | 9001 | Sec | U | | No |
| BA-140 | 2007 | -5.11E+00 | 1.76E+01 | 2.79E+01 | pCi/L | | 3556.18 | ml | 05/23/06 11:30 | 06/01/06 | 9001 | Sec | U | | No |
| LA-140 | 2007 | 1.73E+00 | 6.45E+00 | 1.09E+01 | pCi/L | | 3556.18 | ml | 05/23/06 11:30 | 06/01/06 | 9001 | Sec | U | | No |

Flag Values

- U = Compound/Analyte not detected or less than 3 sigma
- +
- U* = Activity concentration exceeds MDC and 3 sigma; peak identified(gamma only)
- High = Compound/Analyte not detected. Peak not identified, but forced activity concentration exceeds MDC and 3 sigma
- Spec = Activity concentration exceeds customer reporting value
- L = MDC exceeds customer technical specification
- H = Low recovery
- H = High recovery

Bolded text indicates reportable value.

- No = Peak not identified in gamma spectrum
- Yes = Peak identified in gamma spectrum
- **** Results are reported on an as received basis unless otherwise noted

MDC - Minimum Detectable Concentration

Report of Analysis

06/06/06 16:38

L28777

Conestoga-Rovers & Associates

EX001-3ESPDRES-06



**TELEDYNE
BROWN ENGINEERING, INC.**
A Teledyne Technologies Company

Kathy Shaw

| | | | |
|--|---------------------------------|----------------------|------|
| Sample ID: WG-DN-DSP-DN-106-052306-JL-052 | Collect Start: 05/23/2006 12:30 | Matrix: Ground Water | (WG) |
| Station: | Collect Stop: | Volume: | |
| Description: | Receive Date: 05/30/2006 | % Moisture: | |
| LIMS Number: L28777-2 | | | |

| Radionuclide | SOP# | Activity Conc | Uncertainty 2 Sigma | MDC | Units | Run # | Aliquot Volume | Aliquot Units | Reference Date | Count Date | Count Time | Count Units | Flag Values | | | |
|--------------|------|-----------------|---------------------|-----------------|-------|-------|----------------|---------------|----------------|------------|------------|-------------|-------------|------|----|--|
| H-3 | 2010 | 2.37E+03 | 2.89E+02 | 2.34E+02 | pCi/L | | 10 | ml | | 06/02/06 | 30.23 | M | + | High | | |
| TOTAL SR | 2018 | 7.75E-01 | 7.22E-01 | 1.31E+00 | pCi/L | | 450 | ml | 05/23/06 12:30 | 06/06/06 | 150 | M | U | | | |
| MN-54 | 2007 | 1.19E+00 | 3.42E+00 | 5.83E+00 | pCi/L | | 3601.55 | ml | 05/23/06 12:30 | 06/01/06 | 6901 | Sec | U | | No | |
| CO-58 | 2007 | -2.51E+00 | 3.75E+00 | 5.74E+00 | pCi/L | | 3601.55 | ml | 05/23/06 12:30 | 06/01/06 | 6901 | Sec | U | | No | |
| FE-59 | 2007 | 3.20E-01 | 7.23E+00 | 1.20E+01 | pCi/L | | 3601.55 | ml | 05/23/06 12:30 | 06/01/06 | 6901 | Sec | U | | No | |
| CO-60 | 2007 | 1.42E+00 | 3.39E+00 | 5.86E+00 | pCi/L | | 3601.55 | ml | 05/23/06 12:30 | 06/01/06 | 6901 | Sec | U | | No | |
| ZN-65 | 2007 | 8.53E+00 | 7.49E+00 | 1.36E+01 | pCi/L | | 3601.55 | ml | 05/23/06 12:30 | 06/01/06 | 6901 | Sec | U | | No | |
| NB-95 | 2007 | 4.23E+00 | 3.53E+00 | 6.32E+00 | pCi/L | | 3601.55 | ml | 05/23/06 12:30 | 06/01/06 | 6901 | Sec | U | | No | |
| ZR-95 | 2007 | -6.73E+00 | 6.17E+00 | 9.11E+00 | pCi/L | | 3601.55 | ml | 05/23/06 12:30 | 06/01/06 | 6901 | Sec | U | | No | |
| CS-134 | 2007 | 5.33E+00 | 7.61E+00 | 6.48E+00 | pCi/L | | 3601.55 | ml | 05/23/06 12:30 | 06/01/06 | 6901 | Sec | U | | No | |
| CS-137 | 2007 | 4.55E+00 | 3.46E+00 | 6.30E+00 | pCi/L | | 3601.55 | ml | 05/23/06 12:30 | 06/01/06 | 6901 | Sec | U | | No | |
| BA-140 | 2007 | -1.48E+00 | 1.73E+01 | 2.82E+01 | pCi/L | | 3601.55 | ml | 05/23/06 12:30 | 06/01/06 | 6901 | Sec | U | | No | |
| LA-140 | 2007 | 2.48E+00 | 6.47E+00 | 1.12E+01 | pCi/L | | 3601.55 | ml | 05/23/06 12:30 | 06/01/06 | 6901 | Sec | U | | No | |

Flag Values

- U = Compound/Analyte not detected or less than 3 sigma
- +
- U* = Activity concentration exceeds MDC and 3 sigma; peak identified(gamma only)
- U* = Compound/Analyte not detected. Peak not identified, but forced activity concentration exceeds MDC and 3 sigma
- High = Activity concentration exceeds customer reporting value
- Spec = MDC exceeds customer technical specification
- L = Low recovery
- H = High recovery

Bolded text indicates reportable value.

- No = Peak not identified in gamma spectrum
- Yes = Peak identified in gamma spectrum
- **** Results are reported on an as received basis unless otherwise noted

MDC - Minimum Detectable Concentration

Report of Analysis

06/06/06 16:38

L28777

Conestoga-Rovers & Associates

EX001-3ESPDRES-06



**TELEDYNE
BROWN ENGINEERING, INC.**
A Teledyne Technologies Company

Kathy Shaw

Radionuclide

Sample ID: WG-DN-DSP-DN107-052306-JL-053

Station:

Description:

LIMS Number: L28777-3

Collect Start: 05/23/2006 13:50

Collect Stop:

Receive Date: 05/30/2006

Matrix: Ground Water

Volume:

% Moisture:

(WG)

| Radionuclide | SOP# | Activity Conc | Uncertainty 2 Sigma | MDC | Units | Run # | Aliquot Volume | Aliquot Units | Reference Date | Count Date | Count Time | Count Units | Flag Values | | | |
|--------------|------|---------------|---------------------|----------|-------|-------|----------------|---------------|----------------|------------|------------|-------------|-------------|------|----|--|
| H-3 | 2010 | 9.82E+03 | 1.03E+03 | 4.39E+02 | pCi/L | | 10 | ml | | 06/02/06 | 8.2 | M | + | High | | |
| TOTAL SR | 2018 | 2.73E-01 | 6.10E-01 | 1.17E+00 | pCi/L | | 450 | ml | 05/23/06 13:50 | 06/06/06 | 150 | M | U | | | |
| MN-54 | 2007 | -8.79E-01 | 3.08E+00 | 4.92E+00 | pCi/L | | 3621.76 | ml | 05/23/06 13:50 | 06/01/06 | 9602 | Sec | U | | No | |
| CO-58 | 2007 | -1.31E+00 | 3.20E+00 | 5.07E+00 | pCi/L | | 3621.76 | ml | 05/23/06 13:50 | 06/01/06 | 9602 | Sec | U | | No | |
| FE-59 | 2007 | -5.67E-01 | 6.44E+00 | 1.06E+01 | pCi/L | | 3621.76 | ml | 05/23/06 13:50 | 06/01/06 | 9602 | Sec | U | | No | |
| CO-60 | 2007 | -3.19E+00 | 3.07E+00 | 4.42E+00 | pCi/L | | 3621.76 | ml | 05/23/06 13:50 | 06/01/06 | 9602 | Sec | U | | No | |
| ZN-65 | 2007 | 7.09E-01 | 8.31E+00 | 1.17E+01 | pCi/L | | 3621.76 | ml | 05/23/06 13:50 | 06/01/06 | 9602 | Sec | U | | No | |
| NB-95 | 2007 | 1.34E+00 | 3.00E+00 | 5.10E+00 | pCi/L | | 3621.76 | ml | 05/23/06 13:50 | 06/01/06 | 9602 | Sec | U | | No | |
| ZR-95 | 2007 | 1.64E+00 | 5.49E+00 | 9.21E+00 | pCi/L | | 3621.76 | ml | 05/23/06 13:50 | 06/01/06 | 9602 | Sec | U | | No | |
| CS-134 | 2007 | 5.30E+00 | 4.61E+00 | 5.81E+00 | pCi/L | | 3621.76 | ml | 05/23/06 13:50 | 06/01/06 | 9602 | Sec | U | | No | |
| CS-137 | 2007 | -9.18E-01 | 3.34E+00 | 5.43E+00 | pCi/L | | 3621.76 | ml | 05/23/06 13:50 | 06/01/06 | 9602 | Sec | U | | No | |
| BA-140 | 2007 | 4.37E+00 | 1.71E+01 | 2.82E+01 | pCi/L | | 3621.76 | ml | 05/23/06 13:50 | 06/01/06 | 9602 | Sec | U | | No | |
| LA-140 | 2007 | -2.61E+00 | 5.13E+00 | 7.96E+00 | pCi/L | | 3621.76 | ml | 05/23/06 13:50 | 06/01/06 | 9602 | Sec | U | | No | |

Flag Values

- U = Compound/Analyte not detected or less than 3 sigma
- +
- U* = Activity concentration exceeds MDC and 3 sigma; peak identified(gamma only)
- U* = Compound/Analyte not detected. Peak not identified, but forced activity concentration exceeds MDC and 3 sigma
- High = Activity concentration exceeds customer reporting value
- Spec = MDC exceeds customer technical specification
- L = Low recovery
- H = High recovery

Bolded text indicates reportable value.

- No = Peak not identified in gamma spectrum
- Yes = Peak identified in gamma spectrum
- **** Results are reported on an as received basis unless otherwise noted

MDC - Minimum Detectable Concentration

Report of Analysis

06/06/06 16:38

L28777

Conestoga-Rovers & Associates

EX001-3ESPDRES-06



TELEDYNE
BROWN ENGINEERING, INC.
A Teledyne Technologies Company

Kathy Shaw

| Sample ID: WG-DN-DSP-152-052306-JH-001 | | | | | | Collect Start: 05/23/2006 11:14 | | | Matrix: Ground Water | | | (WG) | | | |
|---|------|---------------|---------------------|-----------------|-------|---------------------------------|----------------|---------------|----------------------|------------|------------|-------------|-------------|--|----|
| Station: | | | | | | Collect Stop: | | | Volume: | | | | | | |
| Description: | | | | | | Receive Date: 05/30/2006 | | | % Moisture: | | | | | | |
| LIMS Number: L28777-4 | | | | | | | | | | | | | | | |
| Radionuclide | SOP# | Activity Conc | Uncertainty 2 Sigma | MDC | Units | Run # | Aliquot Volume | Aliquot Units | Reference Date | Count Date | Count Time | Count Units | Flag Values | | |
| H-3 | 2010 | -1.73E+01 | 9.93E+01 | 1.66E+02 | pCi/L | | 10 | ml | | 06/02/06 | 60 | M | U | | |
| TOTAL SR | 2018 | 1.09E-01 | 7.17E-01 | 1.41E+00 | pCi/L | | 450 | ml | 05/23/06 11:14 | 06/06/06 | 150 | M | U | | |
| MN-54 | 2007 | 8.34E-01 | 2.86E+00 | 4.84E+00 | pCi/L | | 3625.33 | ml | 05/23/06 11:14 | 06/01/06 | 9000 | Sec | U | | No |
| CO-58 | 2007 | -4.10E+00 | 3.09E+00 | 4.47E+00 | pCi/L | | 3625.33 | ml | 05/23/06 11:14 | 06/01/06 | 9000 | Sec | U | | No |
| FE-59 | 2007 | 9.91E-01 | 5.97E+00 | 1.00E+01 | pCi/L | | 3625.33 | ml | 05/23/06 11:14 | 06/01/06 | 9000 | Sec | U | | No |
| CO-60 | 2007 | 3.47E-01 | 2.85E+00 | 4.78E+00 | pCi/L | | 3625.33 | ml | 05/23/06 11:14 | 06/01/06 | 9000 | Sec | U | | No |
| ZN-65 | 2007 | 9.08E+00 | 6.44E+00 | 1.18E+01 | pCi/L | | 3625.33 | ml | 05/23/06 11:14 | 06/01/06 | 9000 | Sec | U | | No |
| NB-95 | 2007 | 1.42E+00 | 3.16E+00 | 5.32E+00 | pCi/L | | 3625.33 | ml | 05/23/06 11:14 | 06/01/06 | 9000 | Sec | U | | No |
| ZR-95 | 2007 | 1.41E+00 | 5.64E+00 | 9.39E+00 | pCi/L | | 3625.33 | ml | 05/23/06 11:14 | 06/01/06 | 9000 | Sec | U | | No |
| CS-134 | 2007 | 2.09E+00 | 5.78E+00 | 5.32E+00 | pCi/L | | 3625.33 | ml | 05/23/06 11:14 | 06/01/06 | 9000 | Sec | U | | No |
| CS-137 | 2007 | -7.27E-01 | 3.00E+00 | 4.89E+00 | pCi/L | | 3625.33 | ml | 05/23/06 11:14 | 06/01/06 | 9000 | Sec | U | | No |
| BA-140 | 2007 | -4.95E+00 | 1.57E+01 | 2.53E+01 | pCi/L | | 3625.33 | ml | 05/23/06 11:14 | 06/01/06 | 9000 | Sec | U | | No |
| LA-140 | 2007 | 4.14E-01 | 5.55E+00 | 9.25E+00 | pCi/L | | 3625.33 | ml | 05/23/06 11:14 | 06/01/06 | 9000 | Sec | U | | No |

Flag Values

- U = Compound/Analyte not detected or less than 3 sigma
- + = Activity concentration exceeds MDC and 3 sigma; peak identified(gamma only)
- U* = Compound/Analyte not detected. Peak not identified, but forced activity concentration exceeds MDC and 3 sigma
- High = Activity concentration exceeds customer reporting value
- Spec = MDC exceeds customer technical specification
- L = Low recovery
- H = High recovery

Bolded text indicates reportable value.

- No = Peak not identified in gamma spectrum
- Yes = Peak identified in gamma spectrum
- **** Results are reported on an as received basis unless otherwise noted

MDC - Minimum Detectable Concentration

Report of Analysis

06/06/06 16:38

L28777

Conestoga-Rovers & Associates

EX001-3ESPDRES-06



**TELEDYNE
BROWN ENGINEERING, INC.**
A Teledyne Technologies Company

Kathy Shaw

| | | |
|--|---------------------------------|---------------------------|
| Sample ID: WG-DN-DSP-157M-052306-JH-002 | Collect Start: 05/23/2006 13:36 | Matrix: Ground Water (WG) |
| Station: | Collect Stop: | Volume: |
| Description: | Receive Date: 05/30/2006 | % Moisture: |
| LIMS Number: L28777-5 | | |

| Radionuclide | SOP# | Activity Conc | Uncertainty 2 Sigma | MDC | Units | Run # | Aliquot Volume | Aliquot Units | Reference Date | Count Date | Count Time | Count Units | Flag Values |
|--------------|------|---------------|---------------------|-----------------|-------|-------|----------------|---------------|----------------|------------|------------|-------------|-------------|
| H-3 | 2010 | -3.42E+01 | 9.72E+01 | 1.64E+02 | pCi/L | | 10 | ml | | 06/02/06 | 60 | M | U |
| TOTAL SR | 2018 | -3.94E-03 | 8.63E-01 | 1.72E+00 | pCi/L | | 450 | ml | 05/23/06 13:36 | 06/06/06 | 150 | M | U |
| MN-54 | 2007 | 2.81E+00 | 2.70E+00 | 5.00E+00 | pCi/L | | 3585.24 | ml | 05/23/06 13:36 | 06/01/06 | 12000 | Sec | U |
| CO-58 | 2007 | -3.83E-01 | 2.93E+00 | 5.03E+00 | pCi/L | | 3585.24 | ml | 05/23/06 13:36 | 06/01/06 | 12000 | Sec | U |
| FE-59 | 2007 | 3.30E+00 | 5.63E+00 | 1.04E+01 | pCi/L | | 3585.24 | ml | 05/23/06 13:36 | 06/01/06 | 12000 | Sec | U |
| CO-60 | 2007 | 7.69E-01 | 2.71E+00 | 4.92E+00 | pCi/L | | 3585.24 | ml | 05/23/06 13:36 | 06/01/06 | 12000 | Sec | U |
| ZN-65 | 2007 | 1.53E+01 | 7.03E+00 | 1.26E+01 | pCi/L | | 3585.24 | ml | 05/23/06 13:36 | 06/01/06 | 12000 | Sec | U* |
| NB-95 | 2007 | 3.67E+00 | 2.97E+00 | 5.51E+00 | pCi/L | | 3585.24 | ml | 05/23/06 13:36 | 06/01/06 | 12000 | Sec | U |
| ZR-95 | 2007 | 1.19E+00 | 5.10E+00 | 8.99E+00 | pCi/L | | 3585.24 | ml | 05/23/06 13:36 | 06/01/06 | 12000 | Sec | U |
| CS-134 | 2007 | 3.03E+00 | 3.92E+00 | 5.98E+00 | pCi/L | | 3585.24 | ml | 05/23/06 13:36 | 06/01/06 | 12000 | Sec | U |
| CS-137 | 2007 | -1.11E+00 | 2.93E+00 | 4.99E+00 | pCi/L | | 3585.24 | ml | 05/23/06 13:36 | 06/01/06 | 12000 | Sec | U |
| BA-140 | 2007 | -3.17E+00 | 1.49E+01 | 2.51E+01 | pCi/L | | 3585.24 | ml | 05/23/06 13:36 | 06/01/06 | 12000 | Sec | U |
| LA-140 | 2007 | -1.99E+00 | 4.85E+00 | 8.39E+00 | pCi/L | | 3585.24 | ml | 05/23/06 13:36 | 06/01/06 | 12000 | Sec | U |

Flag Values

- U = Compound/Analyte not detected or less than 3 sigma
- + = Activity concentration exceeds MDC and 3 sigma; peak identified(gamma only)
- U* = Compound/Analyte not detected. Peak not identified, but forced activity concentration exceeds MDC and 3 sigma
- High = Activity concentration exceeds customer reporting value
- Spec = MDC exceeds customer technical specification
- L = Low recovery
- H = High recovery

Bolded text indicates reportable value.

- No = Peak not identified in gamma spectrum
- Yes = Peak identified in gamma spectrum
- **** Results are reported on an as received basis unless otherwise noted

MDC - Minimum Detectable Concentration

Report of Analysis

06/06/06 16:38

L28777

Conestoga-Rovers & Associates

EX001-3ESPDRES-06

Kathy Shaw



TELEDYNE
BROWN ENGINEERING, INC.
A Teledyne Technologies Company

Sample ID: **WG-DN-DSP-157S-052306-JH-003**

Station:

Description:

LIMS Number: **L28777-6**

Collect Start: 05/23/2006 15:50

Collect Stop:

Receive Date: 05/30/2006

Matrix: Ground Water

Volume:

% Moisture:

(WG)

| Radionuclide | SOP# | Activity Conc | Uncertainty 2 Sigma | MDC | Units | Run # | Aliquot Volume | Aliquot Units | Reference Date | Count Date | Count Time | Count Units | Flag Values | | |
|--------------|------|---------------|---------------------|-----------------|-------|-------|----------------|---------------|----------------|------------|------------|-------------|-------------|--|-----|
| H-3 | 2010 | -2.12E+00 | 9.88E+01 | 1.63E+02 | pCi/L | | 10 | ml | | 06/02/06 | 60 | M | U | | |
| TOTAL SR | 2018 | 6.77E-01 | 6.07E-01 | 1.10E+00 | pCi/L | | 450 | ml | 05/23/06 15:50 | 06/06/06 | 150 | M | U | | |
| MN-54 | 2007 | 1.97E+00 | 2.99E+00 | 5.19E+00 | pCi/L | | 3535.09 | ml | 05/23/06 15:50 | 06/01/06 | 11016 | Sec | U | | No |
| CO-58 | 2007 | -2.08E-01 | 2.99E+00 | 4.94E+00 | pCi/L | | 3535.09 | ml | 05/23/06 15:50 | 06/01/06 | 11016 | Sec | U | | No |
| FE-59 | 2007 | 5.08E+00 | 6.61E+00 | 1.16E+01 | pCi/L | | 3535.09 | ml | 05/23/06 15:50 | 06/01/06 | 11016 | Sec | U | | No |
| CO-60 | 2007 | 3.00E+00 | 3.44E+00 | 6.33E+00 | pCi/L | | 3535.09 | ml | 05/23/06 15:50 | 06/01/06 | 11016 | Sec | U | | No |
| ZN-65 | 2007 | 4.22E+00 | 7.03E+00 | 1.22E+01 | pCi/L | | 3535.09 | ml | 05/23/06 15:50 | 06/01/06 | 11016 | Sec | U | | No |
| NB-95 | 2007 | 3.19E+00 | 3.20E+00 | 5.57E+00 | pCi/L | | 3535.09 | ml | 05/23/06 15:50 | 06/01/06 | 11016 | Sec | U | | No |
| ZR-95 | 2007 | -5.49E+00 | 5.54E+00 | 8.26E+00 | pCi/L | | 3535.09 | ml | 05/23/06 15:50 | 06/01/06 | 11016 | Sec | U | | No |
| CS-134 | 2007 | 6.54E+00 | 5.37E+00 | 5.25E+00 | pCi/L | | 3535.09 | ml | 05/23/06 15:50 | 06/01/06 | 11016 | Sec | U | | No |
| CS-137 | 2007 | 4.20E+00 | 3.99E+00 | 5.06E+00 | pCi/L | | 3535.09 | ml | 05/23/06 15:50 | 06/01/06 | 11016 | Sec | U | | Yes |
| BA-140 | 2007 | 2.64E+00 | 1.57E+01 | 2.58E+01 | pCi/L | | 3535.09 | ml | 05/23/06 15:50 | 06/01/06 | 11016 | Sec | U | | No |
| LA-140 | 2007 | 1.81E+00 | 6.28E+00 | 1.06E+01 | pCi/L | | 3535.09 | ml | 05/23/06 15:50 | 06/01/06 | 11016 | Sec | U | | No |

Flag Values

- U = Compound/Analyte not detected or less than 3 sigma
- + = Activity concentration exceeds MDC and 3 sigma; peak identified(gamma only)
- U* = Compound/Analyte not detected. Peak not identified, but forced activity concentration exceeds MDC and 3 sigma
- High = Activity concentration exceeds customer reporting value
- Spec = MDC exceeds customer technical specification
- L = Low recovery
- H = High recovery

Bolded text indicates reportable value.

- No = Peak not identified in gamma spectrum
- Yes = Peak identified in gamma spectrum
- **** Results are reported on an as received basis unless otherwise noted

MDC - Minimum Detectable Concentration

Report of Analysis

06/06/06 16:38

L28777

Conestoga-Rovers & Associates

EX001-3ESPDRES-06

Kathy Shaw

| | | |
|--|---------------------------------|---------------------------|
| Sample ID: WG-DN-DSP-DN-150-052406-JL-054 | Collect Start: 05/24/2006 12:25 | Matrix: Ground Water (WG) |
| Station: | Collect Stop: | Volume: |
| Description: | Receive Date: 05/30/2006 | % Moisture: |
| LIMS Number: L28777-7 | | |

| Radionuclide | SOP# | Activity Conc | Uncertainty 2 Sigma | MDC | Units | Run # | Aliquot Volume | Aliquot Units | Reference Date | Count Date | Count Time | Count Units | Flag Values |
|--------------|------|---------------|---------------------|-----------------|-------|-------|----------------|---------------|----------------|------------|------------|-------------|-------------|
| H-3 | 2010 | 7.35E+01 | 1.03E+02 | 1.61E+02 | pCi/L | | 10 | ml | | 06/02/06 | 60 | M | U |
| TOTAL SR | 2018 | -1.82E-01 | 4.16E-01 | 8.55E-01 | pCi/L | | 450 | ml | 05/24/06 12:25 | 06/06/06 | 150 | M | U |
| MN-54 | 2007 | 7.53E-01 | 3.25E+00 | 5.39E+00 | pCi/L | | 3590.9 | ml | 05/24/06 12:25 | 06/01/06 | 9709 | Sec | U |
| CO-58 | 2007 | -1.45E+00 | 3.19E+00 | 5.04E+00 | pCi/L | | 3590.9 | ml | 05/24/06 12:25 | 06/01/06 | 9709 | Sec | U |
| FE-59 | 2007 | 1.23E+00 | 6.58E+00 | 1.10E+01 | pCi/L | | 3590.9 | ml | 05/24/06 12:25 | 06/01/06 | 9709 | Sec | U |
| CO-60 | 2007 | -2.51E-02 | 3.11E+00 | 5.07E+00 | pCi/L | | 3590.9 | ml | 05/24/06 12:25 | 06/01/06 | 9709 | Sec | U |
| ZN-65 | 2007 | 8.36E+00 | 7.26E+00 | 1.16E+01 | pCi/L | | 3590.9 | ml | 05/24/06 12:25 | 06/01/06 | 9709 | Sec | U |
| NB-95 | 2007 | 1.15E+00 | 3.28E+00 | 5.52E+00 | pCi/L | | 3590.9 | ml | 05/24/06 12:25 | 06/01/06 | 9709 | Sec | U |
| ZR-95 | 2007 | -2.40E+00 | 6.20E+00 | 9.93E+00 | pCi/L | | 3590.9 | ml | 05/24/06 12:25 | 06/01/06 | 9709 | Sec | U |
| CS-134 | 2007 | 2.72E+00 | 3.75E+00 | 5.60E+00 | pCi/L | | 3590.9 | ml | 05/24/06 12:25 | 06/01/06 | 9709 | Sec | U |
| CS-137 | 2007 | 1.46E+00 | 3.17E+00 | 5.41E+00 | pCi/L | | 3590.9 | ml | 05/24/06 12:25 | 06/01/06 | 9709 | Sec | U |
| BA-140 | 2007 | -2.98E+00 | 1.64E+01 | 2.64E+01 | pCi/L | | 3590.9 | ml | 05/24/06 12:25 | 06/01/06 | 9709 | Sec | U |
| LA-140 | 2007 | -4.15E+00 | 5.34E+00 | 8.05E+00 | pCi/L | | 3590.9 | ml | 05/24/06 12:25 | 06/01/06 | 9709 | Sec | U |

Flag Values

- U = Compound/Analyte not detected or less than 3 sigma
- + = Activity concentration exceeds MDC and 3 sigma; peak identified(gamma only)
- U* = Compound/Analyte not detected. Peak not identified, but forced activity concentration exceeds MDC and 3 sigma
- High = Activity concentration exceeds customer reporting value
- Spec = MDC exceeds customer technical specification
- L = Low recovery
- H = High recovery

Bolded text indicates reportable value.

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- Yes = Peak identified in gamma spectrum
- **** Results are reported on an as received basis unless otherwise noted

MDC - Minimum Detectable Concentration

Report of Analysis

06/06/06 16:38

L28777

Conestoga-Rovers & Associates

EX001-3ESPDRES-06

Kathy Shaw



TELEDYNE
BROWN ENGINEERING, INC.
A Teledyne Technologies Company

| | | | |
|--|---------------------------------|----------------------|------|
| Sample ID: WG-DN-DSP-DN-151-052406-JL-055 | Collect Start: 05/24/2006 14:15 | Matrix: Ground Water | (WG) |
| Station: | Collect Stop: | Volume: | |
| Description: | Receive Date: 05/30/2006 | % Moisture: | |
| LIMS Number: L28777-8 | | | |

| Radionuclide | SOP# | Activity Conc | Uncertainty 2 Sigma | MDC | Units | Run # | Aliquot Volume | Aliquot Units | Reference Date | Count Date | Count Time | Count Units | Flag Values |
|--------------|------|---------------|---------------------|-----------------|-------|-------|----------------|---------------|----------------|------------|------------|-------------|-------------|
| H-3 | 2010 | 9.71E+01 | 1.05E+02 | 1.62E+02 | pCi/L | | 10 | ml | | 06/02/06 | 60 | M | U |
| TOTAL SR | 2018 | -1.54E-01 | 8.70E-01 | 1.75E+00 | pCi/L | | 450 | ml | 05/24/06 14:15 | 06/06/06 | 150 | M | U |
| MN-54 | 2007 | 1.18E+00 | 3.09E+00 | 5.48E+00 | pCi/L | | 3550.1 | ml | 05/24/06 14:15 | 06/01/06 | 10628 | Sec | U |
| CO-58 | 2007 | -1.31E+00 | 3.20E+00 | 5.40E+00 | pCi/L | | 3550.1 | ml | 05/24/06 14:15 | 06/01/06 | 10628 | Sec | U |
| FE-59 | 2007 | 2.01E+00 | 5.85E+00 | 1.07E+01 | pCi/L | | 3550.1 | ml | 05/24/06 14:15 | 06/01/06 | 10628 | Sec | U |
| CO-60 | 2007 | -1.29E+00 | 2.72E+00 | 4.63E+00 | pCi/L | | 3550.1 | ml | 05/24/06 14:15 | 06/01/06 | 10628 | Sec | U |
| ZN-65 | 2007 | 1.55E+00 | 6.26E+00 | 1.13E+01 | pCi/L | | 3550.1 | ml | 05/24/06 14:15 | 06/01/06 | 10628 | Sec | U |
| NB-95 | 2007 | 2.37E+00 | 3.29E+00 | 5.96E+00 | pCi/L | | 3550.1 | ml | 05/24/06 14:15 | 06/01/06 | 10628 | Sec | U |
| ZR-95 | 2007 | -2.49E+00 | 5.53E+00 | 9.33E+00 | pCi/L | | 3550.1 | ml | 05/24/06 14:15 | 06/01/06 | 10628 | Sec | U |
| CS-134 | 2007 | 8.08E+00 | 5.39E+00 | 6.08E+00 | pCi/L | | 3550.1 | ml | 05/24/06 14:15 | 06/01/06 | 10628 | Sec | U |
| CS-137 | 2007 | 1.60E-01 | 3.11E+00 | 5.45E+00 | pCi/L | | 3550.1 | ml | 05/24/06 14:15 | 06/01/06 | 10628 | Sec | U |
| BA-140 | 2007 | 1.80E+01 | 1.71E+01 | 3.06E+01 | pCi/L | | 3550.1 | ml | 05/24/06 14:15 | 06/01/06 | 10628 | Sec | U |
| LA-140 | 2007 | 1.15E+00 | 5.24E+00 | 9.62E+00 | pCi/L | | 3550.1 | ml | 05/24/06 14:15 | 06/01/06 | 10628 | Sec | U |

Flag Values

- U = Compound/Analyte not detected or less than 3 sigma
- + = Activity concentration exceeds MDC and 3 sigma; peak identified(gamma only)
- U* = Compound/Analyte not detected. Peak not identified, but forced activity concentration exceeds MDC and 3 sigma
- High = Activity concentration exceeds customer reporting value
- Spec = MDC exceeds customer technical specification
- L = Low recovery
- H = High recovery

Bolded text indicates reportable value.

- No = Peak not identified in gamma spectrum
- Yes = Peak identified in gamma spectrum
- **** Results are reported on an as received basis unless otherwise noted

MDC - Minimum Detectable Concentration

Report of Analysis

06/06/06 16:38

L28777

Conestoga-Rovers & Associates

EX001-3ESPDRES-06

Kathy Shaw



**TELEDYNE
BROWN ENGINEERING, INC.**
A Teledyne Technologies Company

| | | |
|--|---------------------------------|---------------------------|
| Sample ID: WG-DN-DSP-DN-108-052406-JL-056 | Collect Start: 05/24/2006 17:05 | Matrix: Ground Water (WG) |
| Station: | Collect Stop: | Volume: |
| Description: | Receive Date: 05/30/2006 | % Moisture: |
| LIMS Number: L28777-9 | | |

| Radionuclide | SOP# | Activity Conc | Uncertainty 2 Sigma | MDC | Units | Run # | Aliquot Volume | Aliquot Units | Reference Date | Count Date | Count Time | Count Units | Flag Values |
|--------------|------|-----------------|---------------------|-----------------|-------|-------|----------------|---------------|----------------|------------|------------|-------------|-------------|
| H-3 | 2010 | 1.93E+03 | 2.44E+02 | 2.11E+02 | pCi/L | | 10 | ml | | 06/02/06 | 34.48 | M | + |
| TOTAL SR | 2018 | 9.85E-01 | 6.40E-01 | 1.12E+00 | pCi/L | | 450 | ml | 05/24/06 17:05 | 06/06/06 | 150 | M | U |
| MN-54 | 2007 | 2.21E+00 | 3.00E+00 | 5.25E+00 | pCi/L | | 3503.09 | ml | 05/24/06 17:05 | 06/01/06 | 10331 | Sec | U |
| CO-58 | 2007 | 5.01E-01 | 3.31E+00 | 5.55E+00 | pCi/L | | 3503.09 | ml | 05/24/06 17:05 | 06/01/06 | 10331 | Sec | U |
| FE-59 | 2007 | 1.85E+00 | 6.53E+00 | 1.11E+01 | pCi/L | | 3503.09 | ml | 05/24/06 17:05 | 06/01/06 | 10331 | Sec | U |
| CO-60 | 2007 | -9.56E-02 | 3.57E+00 | 6.10E+00 | pCi/L | | 3503.09 | ml | 05/24/06 17:05 | 06/01/06 | 10331 | Sec | U |
| ZN-65 | 2007 | 7.94E-02 | 7.17E+00 | 1.19E+01 | pCi/L | | 3503.09 | ml | 05/24/06 17:05 | 06/01/06 | 10331 | Sec | U |
| NB-95 | 2007 | 9.95E-01 | 3.18E+00 | 5.29E+00 | pCi/L | | 3503.09 | ml | 05/24/06 17:05 | 06/01/06 | 10331 | Sec | U |
| ZR-95 | 2007 | -1.58E+00 | 5.63E+00 | 8.93E+00 | pCi/L | | 3503.09 | ml | 05/24/06 17:05 | 06/01/06 | 10331 | Sec | U |
| CS-134 | 2007 | 3.68E+00 | 5.62E+00 | 5.62E+00 | pCi/L | | 3503.09 | ml | 05/24/06 17:05 | 06/01/06 | 10331 | Sec | U |
| CS-137 | 2007 | -4.11E-01 | 3.34E+00 | 5.43E+00 | pCi/L | | 3503.09 | ml | 05/24/06 17:05 | 06/01/06 | 10331 | Sec | U |
| BA-140 | 2007 | 5.41E+00 | 1.52E+01 | 2.53E+01 | pCi/L | | 3503.09 | ml | 05/24/06 17:05 | 06/01/06 | 10331 | Sec | U |
| LA-140 | 2007 | 2.79E+00 | 5.57E+00 | 9.64E+00 | pCi/L | | 3503.09 | ml | 05/24/06 17:05 | 06/01/06 | 10331 | Sec | U |

Flag Values

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- +
- U* = Activity concentration exceeds MDC and 3 sigma; peak identified(gamma only)
- U* = Compound/Analyte not detected. Peak not identified, but forced activity concentration exceeds MDC and 3 sigma
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- H = High recovery

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MDC - Minimum Detectable Concentration

Report of Analysis

06/06/06 16:38

L28777

Conestoga-Rovers & Associates

EX001-3ESPDRES-06



TELEDYNE
BROWN ENGINEERING, INC.
A Teledyne Technologies Company

Kathy Shaw

Sample ID: **WG-DN-DSP-126-052406-JH-004**

Station:

Description:

LIMS Number: L28777-10

Collect Start: 05/24/2006 11:37

Collect Stop:

Receive Date: 05/30/2006

Matrix: Ground Water

(WG)

Volume:

% Moisture:

| Radionuclide | SOP# | Activity Conc | Uncertainty 2 Sigma | MDC | Units | Run # | Aliquot Volume | Aliquot Units | Reference Date | Count Date | Count Time | Count Units | Flag Values |
|--------------|------|-----------------|---------------------|-----------------|-------|-------|----------------|---------------|----------------|------------|------------|-------------|-------------|
| H-3 | 2010 | -4.23E+00 | 9.83E+01 | 1.63E+02 | pCi/L | | 10 | ml | | 06/02/06 | 60 | M | U |
| TOTAL SR | 2018 | -4.93E-01 | 7.40E-01 | 1.55E+00 | pCi/L | | 450 | ml | 05/24/06 11:37 | 06/06/06 | 150 | M | U |
| K-40 | 2007 | 6.44E+01 | 4.23E+01 | 4.01E+01 | pCi/L | | 3423.02 | ml | 05/24/06 11:37 | 06/01/06 | 12419 | Sec | + |
| MN-54 | 2007 | -7.31E-01 | 2.90E+00 | 4.66E+00 | pCi/L | | 3423.02 | ml | 05/24/06 11:37 | 06/01/06 | 12419 | Sec | U |
| CO-58 | 2007 | 9.21E-02 | 3.12E+00 | 5.12E+00 | pCi/L | | 3423.02 | ml | 05/24/06 11:37 | 06/01/06 | 12419 | Sec | U |
| FE-59 | 2007 | 3.06E+00 | 6.01E+00 | 1.03E+01 | pCi/L | | 3423.02 | ml | 05/24/06 11:37 | 06/01/06 | 12419 | Sec | U |
| CO-60 | 2007 | -7.76E-01 | 2.86E+00 | 4.54E+00 | pCi/L | | 3423.02 | ml | 05/24/06 11:37 | 06/01/06 | 12419 | Sec | U |
| ZN-65 | 2007 | 5.83E+00 | 7.34E+00 | 1.11E+01 | pCi/L | | 3423.02 | ml | 05/24/06 11:37 | 06/01/06 | 12419 | Sec | U |
| NB-95 | 2007 | 3.64E+00 | 3.22E+00 | 5.62E+00 | pCi/L | | 3423.02 | ml | 05/24/06 11:37 | 06/01/06 | 12419 | Sec | U |
| ZR-95 | 2007 | -5.30E+00 | 5.76E+00 | 8.95E+00 | pCi/L | | 3423.02 | ml | 05/24/06 11:37 | 06/01/06 | 12419 | Sec | U |
| CS-134 | 2007 | 5.24E+00 | 3.99E+00 | 5.55E+00 | pCi/L | | 3423.02 | ml | 05/24/06 11:37 | 06/01/06 | 12419 | Sec | U |
| CS-137 | 2007 | 5.29E+00 | 3.08E+00 | 5.57E+00 | pCi/L | | 3423.02 | ml | 05/24/06 11:37 | 06/01/06 | 12419 | Sec | U |
| BA-140 | 2007 | -4.55E+00 | 1.57E+01 | 2.51E+01 | pCi/L | | 3423.02 | ml | 05/24/06 11:37 | 06/01/06 | 12419 | Sec | U |
| LA-140 | 2007 | 6.74E+00 | 4.56E+00 | 8.59E+00 | pCi/L | | 3423.02 | ml | 05/24/06 11:37 | 06/01/06 | 12419 | Sec | U |
| AC-228 | 2007 | 6.13E+01 | 1.21E+01 | 1.60E+01 | pCi/L | | 3423.02 | ml | 05/24/06 11:37 | 06/01/06 | 12419 | Sec | + |

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- +
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- High = Activity concentration exceeds customer reporting value
- Spec = MDC exceeds customer technical specification
- L = Low recovery
- H = High recovery

Bolded text indicates reportable value.

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Yes = Peak identified in gamma spectrum

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MDC - Minimum Detectable Concentration

Report of Analysis

06/06/06 16:38

L28777

Conestoga-Rovers & Associates

EX001-3ESPDRES-06



TELEDYNE
BROWN ENGINEERING, INC.
A Teledyne Technologies Company

Kathy Shaw

Sample ID: **WG-DN-DSP-153-052406-JH-005**

Station:

Description:

LIMS Number: L28777-11

Collect Start: 05/24/2006 13:20

Collect Stop:

Receive Date: 05/30/2006

Matrix: Ground Water

(WG)

Volume:

% Moisture:

| Radionuclide | SOP# | Activity Conc | Uncertainty 2 Sigma | MDC | Units | Run # | Aliquot Volume | Aliquot Units | Reference Date | Count Date | Count Time | Count Units | Flag Values |
|--------------|------|---------------|---------------------|-----------------|-------|-------|----------------|---------------|----------------|------------|------------|-------------|-------------|
| H-3 | 2010 | -3.09E+01 | 9.38E+01 | 1.58E+02 | pCi/L | | 10 | ml | | 06/02/06 | 60 | M | U |
| TOTAL SR | 2018 | -4.53E-01 | 8.12E-01 | 1.69E+00 | pCi/L | | 450 | ml | 05/24/06 13:20 | 06/06/06 | 150 | M | U |
| MN-54 | 2007 | -2.51E+00 | 2.92E+00 | 4.46E+00 | pCi/L | | 3482.9 | ml | 05/24/06 13:20 | 06/01/06 | 10371 | Sec | U |
| CO-58 | 2007 | -5.11E-01 | 3.27E+00 | 5.35E+00 | pCi/L | | 3482.9 | ml | 05/24/06 13:20 | 06/01/06 | 10371 | Sec | U |
| FE-59 | 2007 | 2.66E+00 | 6.13E+00 | 1.06E+01 | pCi/L | | 3482.9 | ml | 05/24/06 13:20 | 06/01/06 | 10371 | Sec | U |
| CO-60 | 2007 | 2.69E+00 | 3.77E+00 | 6.84E+00 | pCi/L | | 3482.9 | ml | 05/24/06 13:20 | 06/01/06 | 10371 | Sec | U |
| ZN-65 | 2007 | 7.67E+00 | 6.67E+00 | 1.21E+01 | pCi/L | | 3482.9 | ml | 05/24/06 13:20 | 06/01/06 | 10371 | Sec | U |
| NB-95 | 2007 | 1.90E+00 | 3.20E+00 | 5.44E+00 | pCi/L | | 3482.9 | ml | 05/24/06 13:20 | 06/01/06 | 10371 | Sec | U |
| ZR-95 | 2007 | 3.21E+00 | 5.69E+00 | 9.67E+00 | pCi/L | | 3482.9 | ml | 05/24/06 13:20 | 06/01/06 | 10371 | Sec | U |
| CS-134 | 2007 | 1.22E+00 | 7.18E+00 | 5.55E+00 | pCi/L | | 3482.9 | ml | 05/24/06 13:20 | 06/01/06 | 10371 | Sec | U |
| CS-137 | 2007 | 1.92E+00 | 3.32E+00 | 5.67E+00 | pCi/L | | 3482.9 | ml | 05/24/06 13:20 | 06/01/06 | 10371 | Sec | U |
| BA-140 | 2007 | 2.37E+00 | 1.67E+01 | 2.74E+01 | pCi/L | | 3482.9 | ml | 05/24/06 13:20 | 06/01/06 | 10371 | Sec | U |
| LA-140 | 2007 | -2.13E+00 | 5.22E+00 | 8.08E+00 | pCi/L | | 3482.9 | ml | 05/24/06 13:20 | 06/01/06 | 10371 | Sec | U |

Flag Values

- U = Compound/Analyte not detected or less than 3 sigma
- + = Activity concentration exceeds MDC and 3 sigma; peak identified(gamma only)
- U* = Compound/Analyte not detected. Peak not identified, but forced activity concentration exceeds MDC and 3 sigma
- High = Activity concentration exceeds customer reporting value
- Spec = MDC exceeds customer technical specification
- L = Low recovery
- H = High recovery

Bolded text indicates reportable value.

No = Peak not identified in gamma spectrum

Yes = Peak identified in gamma spectrum

**** Results are reported on an as received basis unless otherwise noted

MDC - Minimum Detectable Concentration

Report of Analysis

06/06/06 16:38

L28777

Conestoga-Rovers & Associates

EX001-3ESPDRES-06

Kathy Shaw



**TELEDYNE
BROWN ENGINEERING, INC.**
A Teledyne Technologies Company

Sample ID: WG-DN-DSP-154-052506-JH-006

Station:

Description:

LIMS Number: L28777-12

Collect Start: 05/25/2006 06:40

Collect Stop:

Receive Date: 05/30/2006

Matrix: Ground Water (WG)

Volume:

% Moisture:

| Radionuclide | SOP# | Activity Conc | Uncertainty 2 Sigma | MDC | Units | Run # | Aliquot Volume | Aliquot Units | Reference Date | Count Date | Count Time | Count Units | Flag Values | | |
|--------------|------|---------------|---------------------|----------|-------|-------|----------------|---------------|----------------|------------|------------|-------------|-------------|--|----|
| H-3 | 2010 | -8.42E+00 | 9.75E+01 | 1.62E+02 | pCi/L | | 10 | ml | | 06/03/06 | 60 | M | U | | |
| TOTAL SR | 2018 | -2.43E-01 | 8.15E-01 | 1.66E+00 | pCi/L | | 450 | ml | 05/25/06 06:40 | 06/06/06 | 150 | M | U | | |
| MN-54 | 2007 | 1.60E-01 | 3.25E+00 | 5.62E+00 | pCi/L | | 3466.66 | ml | 05/25/06 06:40 | 06/01/06 | 11232 | Sec | U | | No |
| CO-58 | 2007 | -3.57E-01 | 3.29E+00 | 5.66E+00 | pCi/L | | 3466.66 | ml | 05/25/06 06:40 | 06/01/06 | 11232 | Sec | U | | No |
| FE-59 | 2007 | 7.48E-01 | 6.42E+00 | 1.14E+01 | pCi/L | | 3466.66 | ml | 05/25/06 06:40 | 06/01/06 | 11232 | Sec | U | | No |
| CO-60 | 2007 | -1.01E+00 | 3.09E+00 | 5.30E+00 | pCi/L | | 3466.66 | ml | 05/25/06 06:40 | 06/01/06 | 11232 | Sec | U | | No |
| ZN-65 | 2007 | 6.46E+00 | 7.38E+00 | 1.20E+01 | pCi/L | | 3466.66 | ml | 05/25/06 06:40 | 06/01/06 | 11232 | Sec | U | | No |
| NB-95 | 2007 | 7.28E-01 | 3.31E+00 | 5.80E+00 | pCi/L | | 3466.66 | ml | 05/25/06 06:40 | 06/01/06 | 11232 | Sec | U | | No |
| ZR-95 | 2007 | -1.47E+00 | 5.78E+00 | 9.87E+00 | pCi/L | | 3466.66 | ml | 05/25/06 06:40 | 06/01/06 | 11232 | Sec | U | | No |
| CS-134 | 2007 | 1.00E+01 | 5.68E+00 | 6.93E+00 | pCi/L | | 3466.66 | ml | 05/25/06 06:40 | 06/01/06 | 11232 | Sec | U* | | No |
| CS-137 | 2007 | -2.14E+00 | 3.40E+00 | 5.69E+00 | pCi/L | | 3466.66 | ml | 05/25/06 06:40 | 06/01/06 | 11232 | Sec | U | | No |
| BA-140 | 2007 | 3.95E+00 | 1.69E+01 | 2.90E+01 | pCi/L | | 3466.66 | ml | 05/25/06 06:40 | 06/01/06 | 11232 | Sec | U | | No |
| LA-140 | 2007 | 4.72E+00 | 5.20E+00 | 1.00E+01 | pCi/L | | 3466.66 | ml | 05/25/06 06:40 | 06/01/06 | 11232 | Sec | U | | No |

Flag Values

- U = Compound/Analyte not detected or less than 3 sigma
- +
- + = Activity concentration exceeds MDC and 3 sigma; peak identified(gamma only)
- U* = Compound/Analyte not detected. Peak not identified, but forced activity concentration exceeds MDC and 3 sigma
- High = Activity concentration exceeds customer reporting value
- Spec = MDC exceeds customer technical specification
- L = Low recovery
- H = High recovery

Bolded text indicates reportable value.

- No = Peak not identified in gamma spectrum
- Yes = Peak identified in gamma spectrum
- **** Results are reported on an as received basis unless otherwise noted

MDC - Minimum Detectable Concentration

Report of Analysis

06/06/06 16:38

L28777

Conestoga-Rovers & Associates

EX001-3ESPDRES-06

Kathy Shaw



TELEDYNE
BROWN ENGINEERING, INC.
A Teledyne Technologies Company

Radon Show

| Sample ID: WG-DN-DSP-158M-052506-JH-007 | | | | | Collect Start: 05/25/2006 09:40 | | | | Matrix: Ground Water (WG) | | | | | | |
|--|------|-----------------|---------------------|-----------------|---------------------------------|-------|----------------|---------------|---------------------------|------------|------------|-------------|-------------|--|-----|
| Station: | | | | | Collect Stop: | | | | Volume: | | | | | | |
| Description: | | | | | Receive Date: 05/30/2006 | | | | % Moisture: | | | | | | |
| LIMS Number: L28777-13 | | | | | | | | | | | | | | | |
| Radionuclide | SOP# | Activity Conc | Uncertainty 2 Sigma | MDC | Units | Run # | Aliquot Volume | Aliquot Units | Reference Date | Count Date | Count Time | Count Units | Flag Values | | |
| H-3 | 2010 | -5.30E+01 | 9.50E+01 | 1.63E+02 | pCi/L | | 10 | ml | | 06/03/06 | 60 | M | U | | |
| TOTAL SR | 2018 | -6.30E-01 | 9.13E-01 | 1.92E+00 | pCi/L | | 450 | ml | 05/25/06 09:40 | 06/06/06 | 150 | M | U | | |
| K-40 | 2007 | 1.65E+02 | 2.61E+01 | 3.01E+01 | pCi/L | | 3662.21 | ml | 05/25/06 09:40 | 06/01/06 | 36000 | Sec | + | | Yes |
| MN-54 | 2007 | 1.13E+00 | 1.87E+00 | 3.16E+00 | pCi/L | | 3662.21 | ml | 05/25/06 09:40 | 06/01/06 | 36000 | Sec | U | | No |
| CO-58 | 2007 | -7.09E-01 | 1.95E+00 | 3.18E+00 | pCi/L | | 3662.21 | ml | 05/25/06 09:40 | 06/01/06 | 36000 | Sec | U | | No |
| FE-59 | 2007 | 3.37E+00 | 4.00E+00 | 6.85E+00 | pCi/L | | 3662.21 | ml | 05/25/06 09:40 | 06/01/06 | 36000 | Sec | U | | No |
| CO-60 | 2007 | 1.08E-01 | 1.96E+00 | 3.21E+00 | pCi/L | | 3662.21 | ml | 05/25/06 09:40 | 06/01/06 | 36000 | Sec | U | | No |
| ZN-65 | 2007 | 5.73E+00 | 4.83E+00 | 7.23E+00 | pCi/L | | 3662.21 | ml | 05/25/06 09:40 | 06/01/06 | 36000 | Sec | U | | No |
| NB-95 | 2007 | 1.91E+00 | 1.97E+00 | 3.38E+00 | pCi/L | | 3662.21 | ml | 05/25/06 09:40 | 06/01/06 | 36000 | Sec | U | | No |
| ZR-95 | 2007 | 1.21E-01 | 3.51E+00 | 5.83E+00 | pCi/L | | 3662.21 | ml | 05/25/06 09:40 | 06/01/06 | 36000 | Sec | U | | No |
| CS-134 | 2007 | 1.01E+01 | 3.89E+00 | 3.66E+00 | pCi/L | | 3662.21 | ml | 05/25/06 09:40 | 06/01/06 | 36000 | Sec | U* | | No |
| CS-137 | 2007 | -6.34E-01 | 2.01E+00 | 3.25E+00 | pCi/L | | 3662.21 | ml | 05/25/06 09:40 | 06/01/06 | 36000 | Sec | U | | No |
| BA-140 | 2007 | 8.99E+00 | 9.40E+00 | 1.60E+01 | pCi/L | | 3662.21 | ml | 05/25/06 09:40 | 06/01/06 | 36000 | Sec | U | | No |
| LA-140 | 2007 | 2.09E+00 | 3.07E+00 | 5.26E+00 | pCi/L | | 3662.21 | ml | 05/25/06 09:40 | 06/01/06 | 36000 | Sec | U | | No |

Flag Values

- U = Compound/Analyte not detected or less than 3 sigma
- +
- U* = Activity concentration exceeds MDC and 3 sigma; peak identified(gamma only)
- U* = Compound/Analyte not detected. Peak not identified, but forced activity concentration exceeds MDC and 3 sigma
- High = Activity concentration exceeds customer reporting value
- Spec = MDC exceeds customer technical specification
- L = Low recovery
- H = High recovery

Bolded text indicates reportable value.

- No = Peak not identified in gamma spectrum
- Yes = Peak identified in gamma spectrum
- **** Results are reported on an as received basis unless otherwise noted

MDC - Minimum Detectable Concentration

Report of Analysis

06/06/06 16:38

L28777

Conestoga-Rovers & Associates

EX001-3ESPDRES-06



**TELEDYNE
BROWN ENGINEERING, INC.**
A Teledyne Technologies Company

Kathy Shaw

| | | | |
|--|---------------------------------|----------------------|------|
| Sample ID: WG-DN-DSP-158S-052506-JH-008 | Collect Start: 05/25/2006 11:09 | Matrix: Ground Water | (WG) |
| Station: | Collect Stop: | Volume: | |
| Description: | Receive Date: 05/30/2006 | % Moisture: | |
| LIMS Number: L28777-14 | | | |

| Radionuclide | SOP# | Activity Conc | Uncertainty 2 Sigma | MDC | Units | Run # | Aliquot Volume | Aliquot Units | Reference Date | Count Date | Count Time | Count Units | Flag Values |
|--------------|------|-----------------|---------------------|-----------------|-------|-------|----------------|---------------|----------------|------------|------------|-------------|-------------|
| H-3 | 2010 | 6.63E+01 | 1.01E+02 | 1.59E+02 | pCi/L | | 10 | ml | | 06/03/06 | 60 | M | U |
| TOTAL SR | 2018 | -5.31E-01 | 7.45E-01 | 1.57E+00 | pCi/L | | 450 | ml | 05/25/06 11:09 | 06/06/06 | 150 | M | U |
| MN-54 | 2007 | -5.98E-01 | 2.00E+00 | 3.22E+00 | pCi/L | | 3593.64 | ml | 05/25/06 11:09 | 06/01/06 | 36000 | Sec | U |
| CO-58 | 2007 | 2.59E+00 | 2.03E+00 | 3.49E+00 | pCi/L | | 3593.64 | ml | 05/25/06 11:09 | 06/01/06 | 36000 | Sec | U |
| FE-59 | 2007 | -1.57E+00 | 3.95E+00 | 6.38E+00 | pCi/L | | 3593.64 | ml | 05/25/06 11:09 | 06/01/06 | 36000 | Sec | U |
| CO-60 | 2007 | -6.55E-01 | 1.92E+00 | 3.06E+00 | pCi/L | | 3593.64 | ml | 05/25/06 11:09 | 06/01/06 | 36000 | Sec | U |
| ZN-65 | 2007 | 6.95E+00 | 5.24E+00 | 7.85E+00 | pCi/L | | 3593.64 | ml | 05/25/06 11:09 | 06/01/06 | 36000 | Sec | U |
| NB-95 | 2007 | -2.43E-01 | 2.03E+00 | 3.30E+00 | pCi/L | | 3593.64 | ml | 05/25/06 11:09 | 06/01/06 | 36000 | Sec | U |
| ZR-95 | 2007 | 2.24E+00 | 3.60E+00 | 6.04E+00 | pCi/L | | 3593.64 | ml | 05/25/06 11:09 | 06/01/06 | 36000 | Sec | U* |
| CS-134 | 2007 | 1.04E+01 | 4.49E+00 | 3.95E+00 | pCi/L | | 3593.64 | ml | 05/25/06 11:09 | 06/01/06 | 36000 | Sec | U |
| CS-137 | 2007 | -1.13E+00 | 2.09E+00 | 3.37E+00 | pCi/L | | 3593.64 | ml | 05/25/06 11:09 | 06/01/06 | 36000 | Sec | U |
| BA-140 | 2007 | 8.93E+00 | 1.01E+01 | 1.73E+01 | pCi/L | | 3593.64 | ml | 05/25/06 11:09 | 06/01/06 | 36000 | Sec | U |
| LA-140 | 2007 | 1.38E+00 | 3.25E+00 | 5.50E+00 | pCi/L | | 3593.64 | ml | 05/25/06 11:09 | 06/01/06 | 36000 | Sec | U |
| TH-232 | 2007 | 1.58E+01 | 6.05E+00 | 1.20E+01 | pCi/L | | 3593.64 | ml | 05/25/06 11:09 | 06/01/06 | 36000 | Sec | + |

Flag Values

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- +
- U* = Activity concentration exceeds MDC and 3 sigma; peak identified(gamma only)
- U* = Compound/Analyte not detected. Peak not identified, but forced activity concentration exceeds MDC and 3 sigma
- High = Activity concentration exceeds customer reporting value
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- H = High recovery

Bolded text indicates reportable value.

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- Yes = Peak identified in gamma spectrum
- **** Results are reported on an as received basis unless otherwise noted

MDC - Minimum Detectable Concentration

Report of Analysis

06/06/06 16:38

L28777

Conestoga-Rovers & Associates

EX001-3ESPDRES-06

Kathy Shaw



**TELEDYNE
BROWN ENGINEERING, INC.**
A Teledyne Technologies Company

| | | | |
|--|---------------------------------|----------------------|------|
| Sample ID: WG-DN-DSP-159M-052506-JH-009 | Collect Start: 05/25/2006 14:45 | Matrix: Ground Water | (WG) |
| Station: | Collect Stop: | Volume: | |
| Description: | Receive Date: 05/30/2006 | % Moisture: | |
| LIMS Number: L28777-15 | | | |

| Radionuclide | SOP# | Activity Conc | Uncertainty 2 Sigma | MDC | Units | Run # | Aliquot Volume | Aliquot Units | Reference Date | Count Date | Count Time | Count Units | Flag Values |
|--------------|------|-----------------|---------------------|-----------------|-------|-------|----------------|---------------|----------------|------------|------------|-------------|-------------|
| H-3 | 2010 | 5.31E+02 | 1.31E+02 | 1.62E+02 | pCi/L | | 10 | ml | | 06/03/06 | 60 | M | + |
| TOTAL SR | 2018 | -1.30E-01 | 7.00E-01 | 1.41E+00 | pCi/L | | 450 | ml | 05/25/06 14:45 | 06/06/06 | 150 | M | U |
| MN-54 | 2007 | -1.32E+00 | 3.26E+00 | 5.08E+00 | pCi/L | | 3589.89 | ml | 05/25/06 14:45 | 06/02/06 | 7301 | Sec | U |
| CO-58 | 2007 | -4.04E+00 | 4.13E+00 | 6.13E+00 | pCi/L | | 3589.89 | ml | 05/25/06 14:45 | 06/02/06 | 7301 | Sec | U |
| FE-59 | 2007 | 6.79E+00 | 8.02E+00 | 1.43E+01 | pCi/L | | 3589.89 | ml | 05/25/06 14:45 | 06/02/06 | 7301 | Sec | U |
| CO-60 | 2007 | 3.85E+00 | 4.50E+00 | 8.40E+00 | pCi/L | | 3589.89 | ml | 05/25/06 14:45 | 06/02/06 | 7301 | Sec | U |
| ZN-65 | 2007 | 1.06E+01 | 1.07E+01 | 1.67E+01 | pCi/L | | 3589.89 | ml | 05/25/06 14:45 | 06/02/06 | 7301 | Sec | U |
| NB-95 | 2007 | 4.24E+00 | 3.98E+00 | 7.11E+00 | pCi/L | | 3589.89 | ml | 05/25/06 14:45 | 06/02/06 | 7301 | Sec | U |
| ZR-95 | 2007 | -8.40E+00 | 6.83E+00 | 9.89E+00 | pCi/L | | 3589.89 | ml | 05/25/06 14:45 | 06/02/06 | 7301 | Sec | U |
| CS-134 | 2007 | 9.46E+00 | 9.64E+00 | 8.58E+00 | pCi/L | | 3589.89 | ml | 05/25/06 14:45 | 06/02/06 | 7301 | Sec | U |
| CS-137 | 2007 | 1.80E+00 | 3.89E+00 | 6.70E+00 | pCi/L | | 3589.89 | ml | 05/25/06 14:45 | 06/02/06 | 7301 | Sec | U |
| BA-140 | 2007 | 1.61E+01 | 2.03E+01 | 3.52E+01 | pCi/L | | 3589.89 | ml | 05/25/06 14:45 | 06/02/06 | 7301 | Sec | U |
| LA-140 | 2007 | 7.64E-01 | 6.57E+00 | 1.10E+01 | pCi/L | | 3589.89 | ml | 05/25/06 14:45 | 06/02/06 | 7301 | Sec | U |

Flag Values

- U = Compound/Analyte not detected or less than 3 sigma
- +
- U* = Activity concentration exceeds MDC and 3 sigma; peak identified(gamma only)
- U* = Compound/Analyte not detected. Peak not identified, but forced activity concentration exceeds MDC and 3 sigma
- High = Activity concentration exceeds customer reporting value
- Spec = MDC exceeds customer technical specification
- L = Low recovery
- H = High recovery

Bolded text indicates reportable value.

- No = Peak not identified in gamma spectrum
- Yes = Peak identified in gamma spectrum
- **** Results are reported on an as received basis unless otherwise noted

MDC - Minimum Detectable Concentration

QC Results Summary

QC Summary Report

for L28777

6/6/2006

4:42:01PM



H-3

Method Blank Summary

| <u>TBE Sample ID</u> | <u>Radionuclide</u> | <u>Matrix</u> | <u>Count Date/Time</u> | <u>Blank Result</u> | <u>Units</u> | <u>Qualifier</u> | <u>P/F</u> |
|----------------------|---------------------|---------------|------------------------|---------------------|--------------|------------------|------------|
| WG4066-1 | H-3 | WO | 06/02/2006 11:04 | < 1.660E+00 | pCi/Total | U | P |

LCS Sample Summary

| <u>TBE Sample ID</u> | <u>Radionuclide</u> | <u>Matrix</u> | <u>Count Date/Time</u> | <u>Spike Value</u> | <u>LCS Result</u> | <u>Units</u> | <u>Spike Recovery</u> | <u>Range</u> | <u>Qualifier</u> | <u>P/F</u> |
|----------------------|---------------------|---------------|------------------------|--------------------|-------------------|--------------|-----------------------|--------------|------------------|------------|
| WG4066-2 | H-3 | WO | 06/02/2006 12:08 | 5.05E+002 | 5.810E+02 | pCi/Total | 115.1 | 70-130 | + | P |

Spike ID: 3H-041706-1

Spike conc: 5.05E+002

Spike Vol: 1.00E+000

Duplicate Summary

| <u>TBE Sample ID</u> | <u>Radionuclide</u> | <u>Matrix</u> | <u>Count Date/Time</u> | <u>Original Result</u> | <u>DUP Result</u> | <u>Units</u> | <u>RPD</u> | <u>Range</u> | <u>Qualifier</u> | <u>P/F</u> |
|----------------------|---------------------|---------------|------------------------|------------------------|-------------------|--------------|------------|--------------|------------------|------------|
| WG4066-3 L28777-1 | H-3 | WG | 06/02/2006 12:25 | 3.190E+02 | 3.440E+02 | pCi/L | | <30 | * | NE |

+ Positive Result
 U Compound/analyte was analyzed, peak not identified and/or not detected above MDC
 * < 5 times the MDC are not evaluated
 ** Nuclide not detected
 *** Spiking level < 5 times activity
 P Pass
 F Fail
 NE Not evaluated

Page: 1

L28777 45 OF 127

QC Summary Report for L28777

6/6/2006 4:42:01PM



L28777 H-3

Associated Samples for WG4066

| <u>SAMPLENUM</u> | <u>CLIENTID</u> |
|------------------|--------------------------------|
| L28777-1 | WG-DN-DSP-DN-105-052306-JL-051 |
| L28777-2 | WG-DN-DSP-DN-106-052306-JL-052 |
| L28777-3 | WG-DN-DSP-DN107-052306-JL-053 |
| L28777-4 | WG-DN-DSP-152-052306-JH-001 |
| L28777-5 | WG-DN-DSP-157M-052306-JH-002 |
| L28777-6 | WG-DN-DSP-157S-052306-JH-003 |
| L28777-7 | WG-DN-DSP-DN-150-052406-JL-054 |
| L28777-8 | WG-DN-DSP-DN-151-052406-JL-055 |
| L28777-9 | WG-DN-DSP-DN-108-052406-JL-056 |
| L28777-10 | WG-DN-DSP-126-052406-JH-004 |
| L28777-11 | WG-DN-DSP-153-052406-JH-005 |
| L28777-12 | WG-DN-DSP-154-052506-JH-006 |
| L28777-13 | WG-DN-DSP-158M-052506-JH-007 |
| L28777-14 | WG-DN-DSP-158S-052506-JH-008 |
| L28777-15 | WG-DN-DSP-159M-052506-JH-009 |

- + Positive Result
- U Compound/analyte was analyzed, peak not identified and/or not detected above MDC
- * < 5 times the MDC are not evaluated
- ** Nuclide not detected
- *** Spiking level < 5 times activity
- P Pass
- F Fail
- NE Not evaluated

QC Summary Report

for L28777

6/6/2006

4:42:01PM



TOTAL SR

Method Blank Summary

| <u>TBE Sample ID</u> | <u>Radionuclide</u> | <u>Matrix</u> | <u>Count Date/Time</u> | <u>Blank Result</u> | <u>Units</u> | <u>Qualifier</u> | <u>P/F</u> |
|----------------------|---------------------|---------------|------------------------|---------------------|--------------|------------------|------------|
| WG4092-1 | TOTAL SR | WO | 06/06/2006 16:43 | < 7.170E-01 | pCi/Total | U | P |

LCS Sample Summary

| <u>TBE Sample ID</u> | <u>Radionuclide</u> | <u>Matrix</u> | <u>Count Date/Time</u> | <u>Spike Value</u> | <u>LCS Result</u> | <u>Units</u> | <u>Spike Recovery</u> | <u>Range</u> | <u>Qualifier</u> | <u>P/F</u> |
|----------------------|---------------------|---------------|------------------------|--------------------|-------------------|--------------|-----------------------|--------------|------------------|------------|
| WG4092-2 | TOTAL SR | WO | 06/06/2006 16:43 | 5.84E+001 | 6.090E+01 | pCi/Total | 104.3 | 70-130 | + | P |

Spike ID: 90SR-011905

Spike conc: 2.34E+002

Spike Vol: 2.50E-001

Duplicate Summary

| <u>TBE Sample ID</u> | <u>Radionuclide</u> | <u>Matrix</u> | <u>Count Date/Time</u> | <u>Original Result</u> | <u>DUP Result</u> | <u>Units</u> | <u>RPD</u> | <u>Range</u> | <u>Qualifier</u> | <u>P/F</u> |
|----------------------|---------------------|---------------|------------------------|------------------------|-------------------|--------------|------------|--------------|------------------|------------|
| WG4092-3 L28777-1 | TOTAL SR | WG | 06/06/2006 16:43 | < 1.220E+00 | < 1.250E+00 | pCi/L | | <30 | ** | NE |

+ Positive Result
 U Compound/analyte was analyzed, peak not identified and/or not detected above MDC
 * < 5 times the MDC are not evaluated
 ** Nuclide not detected
 *** Spiking level < 5 times activity
 P Pass
 F Fail
 NE Not evaluated

QC Summary Report

for L28777

6/6/2006

4:42:01PM



L28777

SR-90 (FAST)

Associated Samples for

WG4092

SAMPLENUM

CLIENTID

| | |
|-----------|--------------------------------|
| L28777-1 | WG-DN-DSP-DN-105-052306-JL-051 |
| L28777-2 | WG-DN-DSP-DN-106-052306-JL-052 |
| L28777-3 | WG-DN-DSP-DN107-052306-JL-053 |
| L28777-4 | WG-DN-DSP-152-052306-JH-001 |
| L28777-5 | WG-DN-DSP-157M-052306-JH-002 |
| L28777-6 | WG-DN-DSP-157S-052306-JH-003 |
| L28777-7 | WG-DN-DSP-DN-150-052406-JL-054 |
| L28777-8 | WG-DN-DSP-DN-151-052406-JL-055 |
| L28777-9 | WG-DN-DSP-DN-108-052406-JL-056 |
| L28777-10 | WG-DN-DSP-126-052406-JH-004 |
| L28777-11 | WG-DN-DSP-153-052406-JH-005 |
| L28777-12 | WG-DN-DSP-154-052506-JH-006 |
| L28777-13 | WG-DN-DSP-158M-052506-JH-007 |
| L28777-14 | WG-DN-DSP-158S-052506-JH-008 |
| L28777-15 | WG-DN-DSP-159M-052506-JH-009 |

| | |
|-----|--|
| + | Positive Result |
| U | Compound/analyte was analyzed, peak not identified and/or not detected above MDC |
| * | < 5 times the MDC are not evaluated |
| ** | Nuclide not detected |
| *** | Spiking level < 5 times activity |
| P | Pass |
| F | Fail |
| NE | Not evaluated |

Page: 4

L28777 48 OF 127

Raw Data

Work Order: L28777

Customer: Exelon

Nuclide: H-3

Project : EX001-3ESPDRES-06

| Sample ID | Run | Analysis | Reference | Volume/ | Scavenge | Milking | Mount | Count | Counter | Total | Sample | Bkg | Bkg | Eff. | Decay & | Analyst |
|------------------------|-----|-------------------|-----------|-----------------|-----------|-----------|--------|----------|---------|--------|----------|--------|----------|--------|----------|---------|
| Client ID | # | | Date/time | Aliquot | Date/time | Date/time | Weight | Recovery | ID | counts | dt (min) | counts | dt (min) | Factor | Ingrowth | |
| L28777-1 | | H-3 | | 10 ml | | | 0 | | LS7 | 191 | 60 | 1.63 | 60 | .219 | | DW |
| WG-DN-DSP-DN-105-05230 | | | | | | | | | | | | | | | | |
| Activity: 3.19E+02 | | * Error: 1.17E+02 | | MDC: 1.58E+02 | | | | | | | | | | | | |
| L28777-2 | | H-3 | | 10 ml | | | 0 | | LS7 | 380 | 30.23 | 1.63 | 60 | .208 | | DW |
| WG-DN-DSP-DN-106-05230 | | | | | | | | | | | | | | | | |
| Activity: 2.37E+03 | | * Error: 2.89E+02 | | MDC: 2.34E+02 | | | | | | | | | | | | |
| L28777-3 | | H-3 | | 10 ml | | | 0 | | LS7 | 394 | 8.2 | 1.63 | 60 | .213 | | DW |
| WG-DN-DSP-DN107-052306 | | | | | | | | | | | | | | | | |
| Activity: 9.82E+03 | | * Error: 1.03E+03 | | MDC: 4.39E+02 | | | | | | | | | | | | |
| L28777-4 | | H-3 | | 10 ml | | | 0 | | LS7 | 93 | 60 | 1.63 | 60 | .209 | | DW |
| WG-DN-DSP-152-052306-J | | | | | | | | | | | | | | | | |
| Activity: -1.73E+01 | | Error: 9.93E+01 | | MDC: 1.66E+02 * | | | | | | | | | | | | |
| L28777-5 | | H-3 | | 10 ml | | | 0 | | LS7 | 88 | 60 | 1.63 | 60 | .211 | | DW |
| WG-DN-DSP-157M-052306- | | | | | | | | | | | | | | | | |
| Activity: -3.42E+01 | | Error: 9.72E+01 | | MDC: 1.64E+02 * | | | | | | | | | | | | |
| L28777-6 | | H-3 | | 10 ml | | | 0 | | LS7 | 97 | 60 | 1.63 | 60 | .213 | | DW |
| WG-DN-DSP-157S-052306- | | | | | | | | | | | | | | | | |
| Activity: -2.12E+00 | | Error: 9.88E+01 | | MDC: 1.63E+02 * | | | | | | | | | | | | |
| L28777-7 | | H-3 | | 10 ml | | | 0 | | LS7 | 119 | 60 | 1.63 | 60 | .215 | | DW |
| WG-DN-DSP-DN-150-05240 | | | | | | | | | | | | | | | | |
| Activity: 7.35E+01 | | Error: 1.03E+02 | | MDC: 1.61E+02 * | | | | | | | | | | | | |
| L28777-8 | | H-3 | | 10 ml | | | 0 | | LS7 | 125 | 60 | 1.63 | 60 | .214 | | DW |
| WG-DN-DSP-DN-151-05240 | | | | | | | | | | | | | | | | |
| Activity: 9.71E+01 | | Error: 1.05E+02 | | MDC: 1.62E+02 * | | | | | | | | | | | | |
| L28777-9 | | H-3 | | 10 ml | | | 0 | | LS7 | 376 | 34.48 | 1.63 | 60 | .216 | | DW |
| WG-DN-DSP-DN-108-05240 | | | | | | | | | | | | | | | | |
| Activity: 1.93E+03 | | * Error: 2.44E+02 | | MDC: 2.11E+02 | | | | | | | | | | | | |
| L28777-10 | | H-3 | | 10 ml | | | 0 | | LS7 | 97 | 60 | 1.63 | 60 | .213 | | DW |
| WG-DN-DSP-126-052406-J | | | | | | | | | | | | | | | | |
| Activity: -4.23E+00 | | Error: 9.83E+01 | | MDC: 1.63E+02 * | | | | | | | | | | | | |
| L28777-11 | | H-3 | | 10 ml | | | 0 | | LS7 | 89 | 60 | 1.63 | 60 | .219 | | DW |
| WG-DN-DSP-153-052406-J | | | | | | | | | | | | | | | | |
| Activity: -3.09E+01 | | Error: 9.38E+01 | | MDC: 1.58E+02 * | | | | | | | | | | | | |
| L28777-12 | | H-3 | | 10 ml | | | 0 | | LS7 | 95 | 60 | 1.63 | 60 | .214 | | DW |
| WG-DN-DSP-154-052506-J | | | | | | | | | | | | | | | | |
| Activity: -8.42E+00 | | Error: 9.75E+01 | | MDC: 1.62E+02 * | | | | | | | | | | | | |
| L28777-13 | | H-3 | | 10 ml | | | 0 | | LS7 | 83 | 60 | 1.63 | 60 | .213 | | DW |
| WG-DN-DSP-158M-052506- | | | | | | | | | | | | | | | | |
| Activity: -5.3E+01 | | Error: 9.5E+01 | | MDC: 1.63E+02 * | | | | | | | | | | | | |
| L28777-14 | | H-3 | | 10 ml | | | 0 | | LS7 | 117 | 60 | 1.63 | 60 | .218 | | DW |
| WG-DN-DSP-158S-052506- | | | | | | | | | | | | | | | | |
| Activity: 6.63E+01 | | Error: 1.01E+02 | | MDC: 1.59E+02 * | | | | | | | | | | | | |
| L28777-15 | | H-3 | | 10 ml | | | 0 | | LS7 | 249 | 60 | 1.63 | 60 | .214 | | DW |
| WG-DN-DSP-159M-052506- | | | | | | | | | | | | | | | | |
| Activity: 5.31E+02 | | * Error: 1.31E+02 | | MDC: 1.62E+02 | | | | | | | | | | | | |

Work Order: L28777

Customer: Exelon

Nuclide: SR-90 (FAST)

Project : EX001-3ESPDRES-06

| Sample ID | Run | Analysis | Reference | Volume/ | Scavenge | Milking | Mount | Count | Counter | Total | Sample | Bkg | Bkg | Eff. | Decay & Ingrowth | Analyst |
|------------------------|-----|-----------------|-----------|-----------------|-----------|-----------|--------|----------|-----------|-------|--------|---------|--------|---------|------------------|---------|
| Client ID | # | | Date/time | Aliquot | Date/time | Date/time | Weight | Recovery | Date/time | ID | counts | dt(min) | counts | dt(min) | Factor | |
| L28777-1 | | TOTAL SR | 23-may-06 | | 06-jun-06 | | 0 | | 06-jun-06 | X2A | 119 | 150 | 264 | 400 | .354 .999 | CJF |
| WG-DN-DSP-DN-105-05230 | | | 11:30 | 450 ml | 10:30 | | | 71.77 | 16:43 | | | | | | | |
| Activity: 5.25E-01 | | Error: 6.56E-01 | | MDC: 1.22E+00 * | | | | | | | | | | | | |
| L28777-2 | | TOTAL SR | 23-may-06 | | 06-jun-06 | | 0 | | 06-jun-06 | X2B | 137 | 150 | 289 | 400 | .345 .999 | CJF |
| WG-DN-DSP-DN-106-05230 | | | 12:30 | 450 ml | 10:30 | | | 71.51 | 16:43 | | | | | | | |
| Activity: 7.75E-01 | | Error: 7.22E-01 | | MDC: 1.31E+00 * | | | | | | | | | | | | |
| L28777-3 | | TOTAL SR | 23-may-06 | | 06-jun-06 | | 0 | | 06-jun-06 | X2C | 115 | 150 | 277 | 400 | .344 .999 | CJF |
| WG-DN-DSP-DN107-052306 | | | 13:50 | 450 ml | 10:30 | | | 79.03 | 16:43 | | | | | | | |
| Activity: 2.73E-01 | | Error: 6.1E-01 | | MDC: 1.17E+00 * | | | | | | | | | | | | |
| L28777-4 | | TOTAL SR | 23-may-06 | | 06-jun-06 | | 0 | | 06-jun-06 | X2D | 119 | 150 | 307 | 400 | .343 .999 | CJF |
| WG-DN-DSP-152-052306-J | | | 11:14 | 450 ml | 10:30 | | | 69.09 | 16:43 | | | | | | | |
| Activity: 1.09E-01 | | Error: 7.17E-01 | | MDC: 1.41E+00 * | | | | | | | | | | | | |
| L28777-5 | | TOTAL SR | 23-may-06 | | 06-jun-06 | | 0 | | 06-jun-06 | X3A | 136 | 150 | 363 | 400 | .335 .999 | CJF |
| WG-DN-DSP-157M-052306- | | | 13:36 | 450 ml | 10:30 | | | 63.17 | 16:43 | | | | | | | |
| Activity: -3.94E-03 | | Error: 8.63E-01 | | MDC: 1.72E+00 * | | | | | | | | | | | | |
| L28777-6 | | TOTAL SR | 23-may-06 | | 06-jun-06 | | 0 | | 06-jun-06 | Y1B | 134 | 150 | 279 | 400 | .351 .999 | CJF |
| WG-DN-DSP-157S-052306- | | | 15:50 | 450 ml | 10:30 | | | 82.53 | 16:48 | | | | | | | |
| Activity: 6.77E-01 | | Error: 6.07E-01 | | MDC: 1.1E+00 * | | | | | | | | | | | | |
| L28777-7 | | TOTAL SR | 24-may-06 | | 06-jun-06 | | 0 | | 06-jun-06 | Y1C | 102 | 150 | 300 | 400 | .345 .999 | CJF |
| WG-DN-DSP-DN-150-05240 | | | 12:25 | 450 ml | 10:30 | | | 111.83 | 16:48 | | | | | | | |
| Activity: -1.82E-01 | | Error: 4.16E-01 | | MDC: 8.55E-01 * | | | | | | | | | | | | |
| L28777-8 | | TOTAL SR | 24-may-06 | | 06-jun-06 | | 0 | | 06-jun-06 | Y1D | 110 | 150 | 305 | 400 | .362 .999 | CJF |
| WG-DN-DSP-DN-151-05240 | | | 14:15 | 450 ml | 10:30 | | | 52.42 | 16:48 | | | | | | | |
| Activity: -1.54E-01 | | Error: 8.7E-01 | | MDC: 1.75E+00 * | | | | | | | | | | | | |
| L28777-9 | | TOTAL SR | 24-may-06 | | 06-jun-06 | | 0 | | 06-jun-06 | Y2A | 147 | 150 | 280 | 400 | .349 .999 | CJF |
| WG-DN-DSP-DN-108-05240 | | | 17:05 | 450 ml | 10:30 | | | 81.72 | 16:48 | | | | | | | |
| Activity: 9.85E-01 | | Error: 6.4E-01 | | MDC: 1.12E+00 * | | | | | | | | | | | | |
| L28777-10 | | TOTAL SR | 24-may-06 | | 06-jun-06 | | 0 | | 06-jun-06 | Y2B | 102 | 150 | 315 | 400 | .356 .999 | CJF |
| WG-DN-DSP-126-052406-J | | | 11:37 | 450 ml | 10:30 | | | 61.29 | 16:48 | | | | | | | |
| Activity: -4.93E-01 | | Error: 7.4E-01 | | MDC: 1.55E+00 * | | | | | | | | | | | | |
| L28777-11 | | TOTAL SR | 24-may-06 | | 06-jun-06 | | 0 | | 06-jun-06 | Y2C | 88 | 150 | 268 | 400 | .35 .999 | CJF |
| WG-DN-DSP-153-052406-J | | | 13:20 | 450 ml | 10:30 | | | 52.69 | 16:48 | | | | | | | |
| Activity: -4.53E-01 | | Error: 8.12E-01 | | MDC: 1.69E+00 * | | | | | | | | | | | | |
| L28777-12 | | TOTAL SR | 25-may-06 | | 06-jun-06 | | 0 | | 06-jun-06 | Y3A | 102 | 150 | 291 | 400 | .347 .999 | CJF |
| WG-DN-DSP-154-052506-J | | | 06:40 | 450 ml | 10:30 | | | 56.45 | 16:48 | | | | | | | |
| Activity: -2.43E-01 | | Error: 8.15E-01 | | MDC: 1.66E+00 * | | | | | | | | | | | | |
| L28777-13 | | TOTAL SR | 25-may-06 | | 06-jun-06 | | 0 | | 06-jun-06 | Y1A | 89 | 150 | 279 | 400 | .341 .999 | CJF |
| WG-DN-DSP-158M-052506- | | | 09:40 | 450 ml | 10:30 | | | 48.66 | 16:48 | | | | | | | |
| Activity: -6.3E-01 | | Error: 9.13E-01 | | MDC: 1.92E+00 * | | | | | | | | | | | | |
| L28777-14 | | TOTAL SR | 25-may-06 | | 06-jun-06 | | 0 | | 06-jun-06 | Y3B | 93 | 150 | 292 | 400 | .346 .999 | CJF |
| WG-DN-DSP-158S-052506- | | | 11:09 | 450 ml | 10:30 | | | 59.95 | 16:48 | | | | | | | |
| Activity: -5.31E-01 | | Error: 7.45E-01 | | MDC: 1.57E+00 * | | | | | | | | | | | | |
| L28777-15 | | TOTAL SR | 25-may-06 | | 06-jun-06 | | 0 | | 06-jun-06 | Y3D | 94 | 150 | 262 | 400 | .352 .999 | CJF |
| WG-DN-DSP-159M-052506- | | | 14:45 | 450 ml | 10:30 | | | 62.10 | 16:48 | | | | | | | |
| Activity: -1.3E-01 | | Error: 7E-01 | | MDC: 1.41E+00 * | | | | | | | | | | | | |

Sec. Review: *[Signature]* Analyst: *[Signature]* LIMS: ✓

VAX/VMS Teledyne Brown Eng. Laboratory Gamma Report: 1-JUN-2006 11:23:27.80
TBE04 P-40312B HpGe ***** Aquisition Date/Time: 1-JUN-2006 08:53:14.38

LIMS No., Customer Name, Client ID: L28777-1 WG DRESDEN

Sample ID : 04L28777-1 Sample Date: 23-MAY-2006 11:30:00.
Sample Type : WG Geometry : 0435L090804
Quantity : 3.55620E+00 L BKGFILE : 04BG050506MT
Start Channel : 90 Energy Tol : 1.00000 Real Time : 0 02:30:02.13
End Channel : 4090 Pk Srch Sens: 5.00000 Live time : 0 02:30:00.59
MDA Constant : 0.00 Library Used: LIBD

| Pk | It | Energy | Area | Bkgnd | FWHM | Channel | %Eff | Cts/Sec | %Err | Fit |
|----|----|----------|------|-------|------|---------|----------|----------|-------|----------|
| 1 | 1 | 140.10* | 26 | 201 | 1.19 | 280.78 | 1.82E+00 | 2.87E-03 | 101.3 | 2.95E+00 |
| 2 | 1 | 198.33* | 56 | 179 | 1.73 | 397.25 | 1.68E+00 | 6.21E-03 | 46.1 | 3.00E+00 |
| 3 | 1 | 238.60* | 1 | 98 | 1.14 | 477.81 | 1.52E+00 | 8.83E-05 | ***** | 5.13E+00 |
| 4 | 1 | 295.12* | 26 | 117 | 1.11 | 590.87 | 1.32E+00 | 2.85E-03 | 79.0 | 1.86E+00 |
| 5 | 1 | 351.74* | 55 | 95 | 1.84 | 704.09 | 1.17E+00 | 6.07E-03 | 41.7 | 1.55E+00 |
| 6 | 1 | 582.84* | 20 | 52 | 2.41 | 1166.29 | 8.00E-01 | 2.19E-03 | 77.4 | 6.79E+00 |
| 7 | 1 | 596.08 | 31 | 43 | 1.61 | 1192.77 | 7.86E-01 | 3.41E-03 | 42.3 | 1.10E+00 |
| 8 | 1 | 609.30* | 66 | 94 | 1.80 | 1219.21 | 7.73E-01 | 7.35E-03 | 34.1 | 4.26E+00 |
| 9 | 1 | 1460.62* | 12 | 27 | 2.66 | 2921.43 | 3.92E-01 | 1.37E-03 | 111.7 | 9.98E-01 |
| 10 | 1 | 1763.92* | 22 | 5 | 3.21 | 3527.74 | 3.43E-01 | 2.46E-03 | 33.4 | 1.51E+00 |

Flag: "*" = Peak area was modified by background subtraction

Nuclide Line Activity Report

Nuclide Type: natural

| Nuclide | Energy | Area | %Abn | %Eff | Uncorrected pCi/L | Decay Corr pCi/L | 2-Sigma %Error |
|---------|---------|-------|--------|-----------|----------------------|---------------------|-------------------|
| K-40 | 1460.81 | 12 | 10.67* | 3.921E-01 | 2.489E+01 | 2.489E+01 | 223.34 |
| TH-228 | 238.63 | 1 | 44.60* | 1.520E+00 | 9.896E-02 | 9.984E-02 | 4426.87 |
| | 240.98 | ----- | 3.95 | 1.511E+00 | ----- | Line Not Found | ----- |

Flag: "*" = Keyline

Summary of Nuclide Activity
 Sample ID : 04L28777-1

Acquisition date : 1-JUN-2006 08:53:14

| | | |
|---|----|--------|
| Total number of lines in spectrum | 10 | |
| Number of unidentified lines | 7 | |
| Number of lines tentatively identified by NID | 3 | 30.00% |

Nuclide Type : natural

| Nuclide | Hlife | Decay | Uncorrected pCi/L | Decay Corr pCi/L | Decay Corr 2-Sigma Error | 2-Sigma %Error | Flags |
|------------------|-----------|-------|----------------------|---------------------|-----------------------------|-------------------|-------|
| K-40 | 1.28E+09Y | 1.00 | 2.489E+01 | 2.489E+01 | 5.558E+01 | 223.34 | |
| TH-228 | 1.91Y | 1.01 | 9.896E-02 | 9.984E-02 | 442.0E-02 | 4426.87 | |
| Total Activity : | | | 2.499E+01 | 2.499E+01 | | | |

Grand Total Activity : 2.499E+01 2.499E+01

Flags: "K" = Keyline not found
 "E" = Manually edited

"M" = Manually accepted
 "A" = Nuclide specific abn. limit

Unidentified Energy Lines
Sample ID : 04L28777-1

Page : 3
Acquisition date : 1-JUN-2006 08:53:14

| It | Energy | Area | Bkgnd | FWHM | Channel | Left | Pw | Cts/Sec | %Err | %Eff | Flags |
|----|---------|------|-------|------|---------|------|----|----------|------|----------|-------|
| 1 | 140.10 | 26 | 201 | 1.19 | 280.78 | 277 | 8 | 2.87E-03 | **** | 1.82E+00 | |
| 1 | 198.33 | 56 | 179 | 1.73 | 397.25 | 393 | 9 | 6.21E-03 | 92.1 | 1.68E+00 | |
| 1 | 295.12 | 26 | 117 | 1.11 | 590.87 | 587 | 8 | 2.85E-03 | **** | 1.32E+00 | |
| 1 | 351.74 | 55 | 95 | 1.84 | 704.09 | 698 | 13 | 6.07E-03 | 83.4 | 1.17E+00 | |
| 1 | 582.84 | 20 | 52 | 2.41 | 1166.29 | 1164 | 11 | 2.19E-03 | **** | 8.00E-01 | T |
| 1 | 596.08 | 31 | 43 | 1.61 | 1192.77 | 1188 | 9 | 3.41E-03 | 84.5 | 7.86E-01 | |
| 1 | 609.30 | 66 | 94 | 1.80 | 1219.21 | 1214 | 14 | 7.35E-03 | 68.1 | 7.73E-01 | |
| 1 | 1763.92 | 22 | 5 | 3.21 | 3527.74 | 3522 | 11 | 2.46E-03 | 66.7 | 3.43E-01 | |

Flags: "T" = Tentatively associated

Summary of Nuclide Activity

| | | |
|---|----|--------|
| Total number of lines in spectrum | 10 | |
| Number of unidentified lines | 7 | |
| Number of lines tentatively identified by NID | 3 | 30.00% |

Nuclide Type : natural

| Nuclide | Hlife | Decay | Wtd Mean Uncorrected pCi/L | Wtd Mean Decay Corr pCi/L | Decay Corr 2-Sigma Error | 2-Sigma %Error | Flags |
|------------------|-----------|-------|----------------------------------|---------------------------------|-----------------------------|-------------------|-------|
| K-40 | 1.28E+09Y | 1.00 | 2.489E+01 | 2.489E+01 | 5.558E+01 | 223.34 | |
| TH-228 | 1.91Y | 1.01 | 9.896E-02 | 9.984E-02 | 442.0E-02 | 4426.87 | |
| Total Activity : | | | 2.499E+01 | 2.499E+01 | | | |

Grand Total Activity : 2.499E+01 2.499E+01

Flags: "K" = Keyline not found "M" = Manually accepted
"E" = Manually edited "A" = Nuclide specific abn. limit

Interference Report

No interference correction performed

Combined Activity-MDA Report

---- Identified Nuclides ----

| Nuclide | Activity (pCi/L) | Act error | MDA (pCi/L) | MDA error | Act/MDA |
|---------|---------------------|-----------|----------------|-----------|---------|
| K-40 | 2.489E+01 | 5.558E+01 | 5.747E+01 | 0.000E+00 | 0.433 |
| TH-228 | 9.984E-02 | 4.420E+00 | 9.150E+00 | 0.000E+00 | 0.011 |

---- Non-Identified Nuclides ----

| Nuclide | Key-Line Activity (pCi/L) | K.L. Ided | Act error | MDA (pCi/L) | MDA error | Act/MDA |
|---------|---------------------------------|--------------|-----------|----------------|-----------|---------|
| BE-7 | 7.222E+00 | | 2.810E+01 | 4.676E+01 | 0.000E+00 | 0.154 |

| | | | | | |
|---------|------------|-----------|---------------------|-----------|--------|
| NA-24 | 3.782E-02 | 3.656E-02 | Half-Life too short | | |
| CR-51 | 3.016E+00 | 3.221E+01 | 5.266E+01 | 0.000E+00 | 0.057 |
| MN-54 | 6.589E-01 | 3.194E+00 | 5.377E+00 | 0.000E+00 | 0.123 |
| CO-57 | -7.713E-01 | 2.817E+00 | 4.625E+00 | 0.000E+00 | -0.167 |
| CO-58 | 9.869E-01 | 3.363E+00 | 5.714E+00 | 0.000E+00 | 0.173 |
| FE-59 | 6.762E-01 | 7.167E+00 | 1.197E+01 | 0.000E+00 | 0.056 |
| CO-60 | -3.495E-01 | 3.758E+00 | 6.405E+00 | 0.000E+00 | -0.055 |
| ZN-65 | 5.244E+00 | 7.344E+00 | 1.293E+01 | 0.000E+00 | 0.406 |
| SE-75 | -3.211E+00 | 4.317E+00 | 6.854E+00 | 0.000E+00 | -0.468 |
| SR-85 | 1.323E+01 | 4.224E+00 | 7.918E+00 | 0.000E+00 | 1.671 |
| Y-88 | -7.567E-01 | 3.590E+00 | 5.729E+00 | 0.000E+00 | -0.132 |
| NB-94 | 1.692E+00 | 3.400E+00 | 5.755E+00 | 0.000E+00 | 0.294 |
| NB-95 | 2.375E+00 | 3.241E+00 | 5.606E+00 | 0.000E+00 | 0.424 |
| ZR-95 | -6.406E+00 | 6.010E+00 | 8.775E+00 | 0.000E+00 | -0.730 |
| MO-99 | -1.346E+02 | 2.224E+02 | 3.420E+02 | 0.000E+00 | -0.394 |
| RU-103 | 2.357E+00 | 3.594E+00 | 6.122E+00 | 0.000E+00 | 0.385 |
| RU-106 | -6.211E+00 | 2.962E+01 | 4.655E+01 | 0.000E+00 | -0.133 |
| AG-110m | 5.064E-01 | 3.244E+00 | 5.393E+00 | 0.000E+00 | 0.094 |
| SN-113 | 3.210E+00 | 4.064E+00 | 7.054E+00 | 0.000E+00 | 0.455 |
| SB-124 | 1.103E+00 | 6.869E+00 | 5.355E+00 | 0.000E+00 | 0.206 |
| SB-125 | 4.400E+00 | 9.211E+00 | 1.562E+01 | 0.000E+00 | 0.282 |
| TE-129M | 4.427E+01 | 4.266E+01 | 7.452E+01 | 0.000E+00 | 0.594 |
| I-131 | -1.766E+00 | 6.506E+00 | 1.067E+01 | 0.000E+00 | -0.165 |
| BA-133 | 2.888E+00 | 4.725E+00 | 7.067E+00 | 0.000E+00 | 0.409 |
| CS-134 | 1.564E+00 | 4.973E+00 | 5.704E+00 | 0.000E+00 | 0.274 |
| CS-136 | -3.787E+00 | 4.641E+00 | 7.087E+00 | 0.000E+00 | -0.534 |
| CS-137 | 6.715E-01 | 3.485E+00 | 5.807E+00 | 0.000E+00 | 0.116 |
| CE-139 | -3.185E-01 | 3.070E+00 | 4.988E+00 | 0.000E+00 | -0.064 |
| BA-140 | -5.105E+00 | 1.761E+01 | 2.787E+01 | 0.000E+00 | -0.183 |
| LA-140 | 1.726E+00 | 6.450E+00 | 1.090E+01 | 0.000E+00 | 0.158 |
| CE-141 | 7.204E+00 | 6.624E+00 | 9.938E+00 | 0.000E+00 | 0.725 |
| CE-144 | -1.260E+01 | 2.414E+01 | 3.468E+01 | 0.000E+00 | -0.363 |
| EU-152 | -4.691E+00 | 1.203E+01 | 1.598E+01 | 0.000E+00 | -0.294 |
| EU-154 | -2.500E+00 | 5.883E+00 | 9.596E+00 | 0.000E+00 | -0.261 |
| RA-226 | -2.028E+01 | 7.740E+01 | 1.264E+02 | 0.000E+00 | -0.160 |
| AC-228 | 2.719E-01 | 1.310E+01 | 2.252E+01 | 0.000E+00 | 0.012 |
| TH-232 | 2.711E-01 | 1.306E+01 | 2.245E+01 | 0.000E+00 | 0.012 |
| U-235 | 1.458E+01 | 2.587E+01 | 3.772E+01 | 0.000E+00 | 0.387 |
| U-238 | -5.852E+01 | 3.815E+02 | 6.123E+02 | 0.000E+00 | -0.096 |
| AM-241 | -2.650E+01 | 2.693E+01 | 4.238E+01 | 0.000E+00 | -0.625 |

A,04L28777-1 ,06/01/2006 11:23,05/23/2006 11:30, 3.556E+00,L28777-1 WG DR
 B,04L28777-1 ,LIBD ,03/14/2005 09:04,0435L090804
 C,K-40 ,YES, 2.489E+01, 5.558E+01, 5.747E+01,, 0.433
 C,TH-228 ,YES, 9.984E-02, 4.420E+00, 9.150E+00,, 0.011
 C,BE-7 ,NO , 7.222E+00, 2.810E+01, 4.676E+01,, 0.154
 C,CR-51 ,NO , 3.016E+00, 3.221E+01, 5.266E+01,, 0.057
 C,MN-54 ,NO , 6.589E-01, 3.194E+00, 5.377E+00,, 0.123
 C,CO-57 ,NO , -7.713E-01, 2.817E+00, 4.625E+00,, -0.167
 C,CO-58 ,NO , 9.869E-01, 3.363E+00, 5.714E+00,, 0.173
 C,FE-59 ,NO , 6.762E-01, 7.167E+00, 1.197E+01,, 0.056
 C,CO-60 ,NO , -3.495E-01, 3.758E+00, 6.405E+00,, -0.055
 C,ZN-65 ,NO , 5.244E+00, 7.344E+00, 1.293E+01,, 0.406
 C,SE-75 ,NO , -3.211E+00, 4.317E+00, 6.854E+00,, -0.468
 C,SR-85 ,NO , 1.323E+01, 4.224E+00, 7.918E+00,, 1.671
 C,Y-88 ,NO , -7.567E-01, 3.590E+00, 5.729E+00,, -0.132
 C,NB-94 ,NO , 1.692E+00, 3.400E+00, 5.755E+00,, 0.294
 C,NB-95 ,NO , 2.375E+00, 3.241E+00, 5.606E+00,, 0.424
 C,ZR-95 ,NO , -6.406E+00, 6.010E+00, 8.775E+00,, -0.730
 C,MO-99 ,NO , -1.346E+02, 2.224E+02, 3.420E+02,, -0.394
 C,RU-103 ,NO , 2.357E+00, 3.594E+00, 6.122E+00,, 0.385
 C,RU-106 ,NO , -6.211E+00, 2.962E+01, 4.655E+01,, -0.133
 C,AG-110m ,NO , 5.064E-01, 3.244E+00, 5.393E+00,, 0.094
 C,SN-113 ,NO , 3.210E+00, 4.064E+00, 7.054E+00,, 0.455
 C,SB-124 ,NO , 1.103E+00, 6.869E+00, 5.355E+00,, 0.206
 C,SB-125 ,NO , 4.400E+00, 9.211E+00, 1.562E+01,, 0.282
 C,TE-129M ,NO , 4.427E+01, 4.266E+01, 7.452E+01,, 0.594
 C,I-131 ,NO , -1.766E+00, 6.506E+00, 1.067E+01,, -0.165
 C,BA-133 ,NO , 2.888E+00, 4.725E+00, 7.067E+00,, 0.409
 C,CS-134 ,NO , 1.564E+00, 4.973E+00, 5.704E+00,, 0.274
 C,CS-136 ,NO , -3.787E+00, 4.641E+00, 7.087E+00,, -0.534
 C,CS-137 ,NO , 6.715E-01, 3.485E+00, 5.807E+00,, 0.116
 C,CE-139 ,NO , -3.185E-01, 3.070E+00, 4.988E+00,, -0.064
 C,BA-140 ,NO , -5.105E+00, 1.761E+01, 2.787E+01,, -0.183
 C,LA-140 ,NO , 1.726E+00, 6.450E+00, 1.090E+01,, 0.158
 C,CE-141 ,NO , 7.204E+00, 6.624E+00, 9.938E+00,, 0.725
 C,CE-144 ,NO , -1.260E+01, 2.414E+01, 3.468E+01,, -0.363
 C,EU-152 ,NO , -4.691E+00, 1.203E+01, 1.598E+01,, -0.294
 C,EU-154 ,NO , -2.500E+00, 5.883E+00, 9.596E+00,, -0.261
 C,RA-226 ,NO , -2.028E+01, 7.740E+01, 1.264E+02,, -0.160
 C,AC-228 ,NO , 2.719E-01, 1.310E+01, 2.252E+01,, 0.012
 C,TH-232 ,NO , 2.711E-01, 1.306E+01, 2.245E+01,, 0.012
 C,U-235 ,NO , 1.458E+01, 2.587E+01, 3.772E+01,, 0.387
 C,U-238 ,NO , -5.852E+01, 3.815E+02, 6.123E+02,, -0.096
 C,AM-241 ,NO , -2.650E+01, 2.693E+01, 4.238E+01,, -0.625

Sec. Review: Analyst: LIMS: ☒

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VAX/VMS Teledyne Brown Eng. Laboratory Gamma Report: 1-JUN-2006 10:48:26.76

TBE07 P-10768B HpGe ***** Aquisition Date/Time: 1-JUN-2006 08:53:17.70

LIMS No., Customer Name, Client ID: L28777-2 WG DRESDEN

| | | | |
|---------------|-----------------|---------------|-----------------------|
| Sample ID | : 07L28777-2 | Smple Date: | 23-MAY-2006 12:30:00. |
| Sample Type | : WG | Geometry | : 0735L090904 |
| Quantity | : 3.60160E+00 L | BKGFILE | : 07BG050506MT |
| Start Channel | : 40 | Energy Tol | : 1.00000 |
| End Channel | : 4090 | Pk Srch Sens: | 5.00000 |
| MDA Constant | : 0.00 | Library Used: | LIBD |
| | | Real Time | : 0 01:55:02.58 |
| | | Live time | : 0 01:55:01.19 |

| Pk | It | Energy | Area | Bkgnd | FWHM | Channel | %Eff | Cts/Sec | %Err | Fit |
|----|----|----------|------|-------|------|---------|----------|----------|------|----------|
| 1 | 1 | 65.68* | 60 | 215 | 1.57 | 132.20 | 7.01E-01 | 8.63E-03 | 49.2 | 3.74E+00 |
| 2 | 5 | 241.45 | 61 | 125 | 1.83 | 483.87 | 1.80E+00 | 8.81E-03 | 40.9 | 3.35E+00 |
| 3 | 1 | 351.79* | 56 | 156 | 1.60 | 704.60 | 1.43E+00 | 8.06E-03 | 50.5 | 9.91E-01 |
| 4 | 1 | 596.21 | 40 | 47 | 1.98 | 1193.51 | 9.96E-01 | 5.73E-03 | 36.9 | 1.11E+00 |
| 5 | 1 | 609.33* | 79 | 53 | 1.93 | 1219.76 | 9.81E-01 | 1.14E-02 | 25.1 | 1.87E+00 |
| 6 | 1 | 1409.07 | 14 | 11 | 1.55 | 2819.00 | 5.29E-01 | 2.06E-03 | 56.3 | 1.29E+00 |
| 7 | 1 | 1765.03* | 12 | 0 | 2.29 | 3530.59 | 4.54E-01 | 1.70E-03 | 48.3 | 5.90E-01 |

Flag: "*" = Peak area was modified by background subtraction

Nuclide Line Activity Report

Flag: "*" = Keyline

Summary of Nuclide Activity
Sample ID : 07L28777-2

Acquisition date : 1-JUN-2006 08:53:17

| | | |
|---|---|--------|
| Total number of lines in spectrum | 7 | |
| Number of unidentified lines | 6 | |
| Number of lines tentatively identified by NID | 1 | 14.29% |

**** There are no nuclides meeting summary criteria ****

Flags: "K" = Keyline not found
 "E" = Manually edited

"M" = Manually accepted
"A" = Nuclide specific abn. limit

Unidentified Energy Lines
Sample ID : 07L28777-2

Page : 3
Acquisition date : 1-JUN-2006 08:53:17

| It | Energy | Area | Bkgnd | FWHM | Channel | Left | Pw | Cts/Sec | %Err | %Eff | Flags |
|----|---------|------|-------|------|---------|------|----|----------|------|----------|-------|
| 1 | 65.68 | 60 | 215 | 1.57 | 132.20 | 129 | 10 | 8.63E-03 | 98.4 | 7.01E-01 | |
| 5 | 241.45 | 61 | 125 | 1.83 | 483.87 | 474 | 19 | 8.81E-03 | 81.7 | 1.80E+00 | T |
| 1 | 351.79 | 56 | 156 | 1.60 | 704.60 | 700 | 14 | 8.06E-03 | **** | 1.43E+00 | |
| 1 | 596.21 | 40 | 47 | 1.98 | 1193.51 | 1189 | 11 | 5.73E-03 | 73.8 | 9.96E-01 | |
| 1 | 609.33 | 79 | 53 | 1.93 | 1219.76 | 1213 | 15 | 1.14E-02 | 50.3 | 9.81E-01 | |
| 1 | 1409.07 | 14 | 11 | 1.55 | 2819.00 | 2809 | 14 | 2.06E-03 | **** | 5.29E-01 | |
| 1 | 1765.03 | 12 | 0 | 2.29 | 3530.59 | 3522 | 14 | 1.70E-03 | 96.7 | 4.54E-01 | |

Flags: "T" = Tentatively associated

Summary of Nuclide Activity

Total number of lines in spectrum 7
 Number of unidentified lines 6
 Number of lines tentatively identified by NID 1 14.29%
 **** There are no nuclides meeting summary criteria ****

Flags: "K" = Keyline not found "M" = Manually accepted
 "E" = Manually edited "A" = Nuclide specific abn. limit

Interference Report

No interference correction performed

Combined Activity-MDA Report

---- Non-Identified Nuclides ----

| Nuclide | Key-Line Activity (pCi/L) | K.L. Ided | Act error | MDA (pCi/L) | MDA error | Act/MDA |
|---------|---------------------------------|--------------|-----------|---------------------|-----------|---------|
| BE-7 | 1.237E+01 | | 3.116E+01 | 5.306E+01 | 0.000E+00 | 0.233 |
| NA-24 | -1.815E-02 | | 3.397E-02 | Half-Life too short | | |
| K-40 | 1.729E+01 | | 4.638E+01 | 9.107E+01 | 0.000E+00 | 0.190 |
| CR-51 | -2.377E+01 | | 3.431E+01 | 5.324E+01 | 0.000E+00 | -0.446 |
| MN-54 | 1.191E+00 | | 3.416E+00 | 5.827E+00 | 0.000E+00 | 0.204 |
| CO-57 | -2.798E+00 | | 2.925E+00 | 4.701E+00 | 0.000E+00 | -0.595 |
| CO-58 | -2.505E+00 | | 3.748E+00 | 5.742E+00 | 0.000E+00 | -0.436 |
| FE-59 | 3.201E-01 | | 7.226E+00 | 1.199E+01 | 0.000E+00 | 0.027 |
| CO-60 | 1.424E+00 | | 3.385E+00 | 5.860E+00 | 0.000E+00 | 0.243 |
| ZN-65 | 8.529E+00 | | 7.490E+00 | 1.359E+01 | 0.000E+00 | 0.628 |
| SE-75 | -8.627E-01 | | 4.264E+00 | 6.929E+00 | 0.000E+00 | -0.125 |
| SR-85 | 1.693E+01 | | 4.106E+00 | 8.108E+00 | 0.000E+00 | 2.088 |
| Y-88 | -6.403E+00 | | 4.182E+00 | 5.296E+00 | 0.000E+00 | -1.209 |
| NB-94 | -1.233E+00 | | 3.198E+00 | 5.114E+00 | 0.000E+00 | -0.241 |
| NB-95 | 4.233E+00 | | 3.529E+00 | 6.321E+00 | 0.000E+00 | 0.670 |
| ZR-95 | -6.726E+00 | | 6.167E+00 | 9.105E+00 | 0.000E+00 | -0.739 |
| MO-99 | -3.665E+01 | | 2.295E+02 | 3.714E+02 | 0.000E+00 | -0.099 |
| RU-103 | 2.636E+00 | | 3.703E+00 | 6.418E+00 | 0.000E+00 | 0.411 |
| RU-106 | 1.434E+01 | | 3.065E+01 | 5.023E+01 | 0.000E+00 | 0.286 |
| AG-110m | -1.604E+00 | | 3.251E+00 | 5.187E+00 | 0.000E+00 | -0.309 |
| SN-113 | 7.383E-03 | | 4.310E+00 | 7.083E+00 | 0.000E+00 | 0.001 |

| | | | | | |
|---------|------------|-----------|-----------|-----------|--------|
| SB-124 | -5.684E-01 | 8.110E+00 | 5.742E+00 | 0.000E+00 | -0.099 |
| SB-125 | 1.986E+00 | 8.395E+00 | 1.392E+01 | 0.000E+00 | 0.143 |
| TE-129M | 3.030E+01 | 4.431E+01 | 7.503E+01 | 0.000E+00 | 0.404 |
| I-131 | 1.446E+00 | 6.685E+00 | 1.120E+01 | 0.000E+00 | 0.129 |
| BA-133 | 4.264E+00 | 5.189E+00 | 7.803E+00 | 0.000E+00 | 0.547 |
| CS-134 | 5.334E+00 | 7.606E+00 | 6.484E+00 | 0.000E+00 | 0.823 |
| CS-136 | -2.129E+00 | 5.460E+00 | 8.571E+00 | 0.000E+00 | -0.248 |
| CS-137 | 4.550E+00 | 3.463E+00 | 6.295E+00 | 0.000E+00 | 0.723 |
| CE-139 | 4.816E-01 | 3.157E+00 | 5.208E+00 | 0.000E+00 | 0.092 |
| BA-140 | -1.482E+00 | 1.726E+01 | 2.822E+01 | 0.000E+00 | -0.053 |
| LA-140 | 2.479E+00 | 6.465E+00 | 1.115E+01 | 0.000E+00 | 0.222 |
| CE-141 | -7.903E+00 | 6.163E+00 | 9.646E+00 | 0.000E+00 | -0.819 |
| CE-144 | -4.233E+01 | 2.345E+01 | 3.607E+01 | 0.000E+00 | -1.174 |
| EU-152 | -4.604E+00 | 1.156E+01 | 1.637E+01 | 0.000E+00 | -0.281 |
| EU-154 | -4.537E+00 | 6.085E+00 | 9.870E+00 | 0.000E+00 | -0.460 |
| RA-226 | 5.048E+01 | 7.609E+01 | 1.311E+02 | 0.000E+00 | 0.385 |
| AC-228 | -2.297E+00 | 1.296E+01 | 2.200E+01 | 0.000E+00 | -0.104 |
| TH-228 | 6.730E+00 | 6.852E+00 | 1.085E+01 | 0.000E+00 | 0.621 |
| TH-232 | -2.290E+00 | 1.292E+01 | 2.194E+01 | 0.000E+00 | -0.104 |
| U-235 | -2.398E+01 | 2.409E+01 | 3.826E+01 | 0.000E+00 | -0.627 |
| U-238 | 7.975E+01 | 3.935E+02 | 6.587E+02 | 0.000E+00 | 0.121 |
| AM-241 | -2.657E+01 | 2.605E+01 | 3.884E+01 | 0.000E+00 | -0.684 |

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A,07L28777-2      ,06/01/2006 10:48,05/23/2006 12:30,    3.602E+00,L28777-2 WG DR
B,07L28777-2      ,LIBD      ,06/23/2005 07:26,0735L090904
C,BE-7      ,NO ,    1.237E+01,    3.116E+01,    5.306E+01,,    0.233
C,K-40      ,NO ,    1.729E+01,    4.638E+01,    9.107E+01,,    0.190
C,CR-51     ,NO ,   -2.377E+01,    3.431E+01,    5.324E+01,,   -0.446
C,MN-54     ,NO ,    1.191E+00,    3.416E+00,    5.827E+00,,    0.204
C,CO-57     ,NO ,   -2.798E+00,    2.925E+00,    4.701E+00,,   -0.595
C,CO-58     ,NO ,   -2.505E+00,    3.748E+00,    5.742E+00,,   -0.436
C,FE-59     ,NO ,    3.201E-01,    7.226E+00,    1.199E+01,,    0.027
C,CO-60     ,NO ,    1.424E+00,    3.385E+00,    5.860E+00,,    0.243
C,ZN-65     ,NO ,    8.529E+00,    7.490E+00,    1.359E+01,,    0.628
C,SE-75     ,NO ,   -8.627E-01,    4.264E+00,    6.929E+00,,   -0.125
C,SR-85     ,NO ,    1.693E+01,    4.106E+00,    8.108E+00,,    2.088
C,Y-88      ,NO ,   -6.403E+00,    4.182E+00,    5.296E+00,,   -1.209
C,NB-94     ,NO ,   -1.233E+00,    3.198E+00,    5.114E+00,,   -0.241
C,NB-95     ,NO ,    4.233E+00,    3.529E+00,    6.321E+00,,    0.670
C,ZR-95     ,NO ,   -6.726E+00,    6.167E+00,    9.105E+00,,   -0.739
C,MO-99     ,NO ,   -3.665E+01,    2.295E+02,    3.714E+02,,   -0.099
C,RU-103    ,NO ,    2.636E+00,    3.703E+00,    6.418E+00,,    0.411
C,RU-106    ,NO ,    1.434E+01,    3.065E+01,    5.023E+01,,    0.286
C,AG-110m   ,NO ,   -1.604E+00,    3.251E+00,    5.187E+00,,   -0.309
C,SN-113    ,NO ,    7.383E-03,    4.310E+00,    7.083E+00,,    0.001
C,SB-124    ,NO ,   -5.684E-01,    8.110E+00,    5.742E+00,,   -0.099
C,SB-125    ,NO ,    1.986E+00,    8.395E+00,    1.392E+01,,    0.143
C,TE-129M   ,NO ,    3.030E+01,    4.431E+01,    7.503E+01,,    0.404
C,I-131     ,NO ,    1.446E+00,    6.685E+00,    1.120E+01,,    0.129
C,BA-133    ,NO ,    4.264E+00,    5.189E+00,    7.803E+00,,    0.547
C,CS-134    ,NO ,    5.334E+00,    7.606E+00,    6.484E+00,,    0.823
C,CS-136    ,NO ,   -2.129E+00,    5.460E+00,    8.571E+00,,   -0.248
C,CS-137    ,NO ,    4.550E+00,    3.463E+00,    6.295E+00,,    0.723
C,CE-139    ,NO ,    4.816E-01,    3.157E+00,    5.208E+00,,    0.092
C,BA-140    ,NO ,   -1.482E+00,    1.726E+01,    2.822E+01,,   -0.053
C,LA-140    ,NO ,    2.479E+00,    6.465E+00,    1.115E+01,,    0.222
C,CE-141    ,NO ,   -7.903E+00,    6.163E+00,    9.646E+00,,   -0.819
C,CE-144    ,NO ,   -4.233E+01,    2.345E+01,    3.607E+01,,   -1.174
C,EU-152    ,NO ,   -4.604E+00,    1.156E+01,    1.637E+01,,   -0.281
C,EU-154    ,NO ,   -4.537E+00,    6.085E+00,    9.870E+00,,   -0.460
C,RA-226    ,NO ,    5.048E+01,    7.609E+01,    1.311E+02,,    0.385
C,AC-228    ,NO ,   -2.297E+00,    1.296E+01,    2.200E+01,,   -0.104
C,TH-228    ,NO ,    6.730E+00,    6.852E+00,    1.085E+01,,    0.621
C,TH-232    ,NO ,   -2.290E+00,    1.292E+01,    2.194E+01,,   -0.104
C,U-235     ,NO ,   -2.398E+01,    2.409E+01,    3.826E+01,,   -0.627
C,U-238     ,NO ,    7.975E+01,    3.935E+02,    6.587E+02,,    0.121
C,AM-241    ,NO ,   -2.657E+01,    2.605E+01,    3.884E+01,,   -0.684

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Sec. Review: Analyst: LIMS: ✓

VAX/VMS Teledyne Brown Eng. Laboratory Gamma Report: 1-JUN-2006 13:24:21.98
TBE13 P-10727B HpGe ***** Aquisition Date/Time: 1-JUN-2006 10:44:10.58

LIMS No., Customer Name, Client ID: L28777-3 WG EXELON/DRESDEN

Sample ID : 13L28777-3 Smple Date: 23-MAY-2006 13:50:00.
Sample Type : wg Geometry : 1335L090904
Quantity : 3.62180E+00 1 BKGFILE : 13BG050506MT
Start Channel : 25 Energy Tol : 1.50000 Real Time : 0 02:40:04.28
End Channel : 4090 Pk Srch Sens: 5.00000 Live time : 0 02:40:01.56
MDA Constant : 0.00 Library Used: LIBD

| Pk | It | Energy | Area | Bkgnd | FWHM | Channel | %Eff | Cts/Sec | %Err | Fit |
|----|----|----------|------|-------|------|---------|----------|----------|-------|----------|
| 1 | 1 | 93.00* | 20 | 522 | 1.40 | 185.99 | 1.53E+00 | 2.11E-03 | 245.6 | 6.09E+00 |
| 2 | 1 | 139.84* | 85 | 280 | 1.29 | 279.62 | 2.02E+00 | 8.84E-03 | 36.9 | 1.48E+00 |
| 3 | 1 | 198.56* | 101 | 251 | 2.15 | 397.01 | 1.90E+00 | 1.05E-02 | 31.8 | 2.87E+00 |
| 4 | 1 | 238.60* | 58 | 172 | 1.24 | 477.07 | 1.73E+00 | 6.07E-03 | 44.4 | 1.17E+00 |
| 5 | 1 | 351.87* | 72 | 180 | 2.07 | 703.55 | 1.34E+00 | 7.49E-03 | 42.4 | 2.12E+00 |
| 6 | 1 | 583.98* | 92 | 76 | 1.60 | 1167.84 | 9.25E-01 | 9.63E-03 | 23.3 | 2.54E+01 |
| 7 | 1 | 596.02 | 44 | 60 | 2.24 | 1191.94 | 9.11E-01 | 4.61E-03 | 38.3 | 3.06E+00 |
| 8 | 1 | 609.07* | 64 | 69 | 1.32 | 1218.06 | 8.97E-01 | 6.70E-03 | 30.0 | 3.49E-01 |
| 9 | 1 | 1120.75* | 28 | 32 | 2.41 | 2242.35 | 5.69E-01 | 2.93E-03 | 49.3 | 7.67E-01 |
| 10 | 1 | 1460.88* | 7 | 39 | 1.81 | 2923.82 | 4.69E-01 | 7.43E-04 | 249.6 | 1.37E+00 |
| 11 | 1 | 1764.20* | 19 | 20 | 2.91 | 3531.92 | 4.11E-01 | 1.95E-03 | 57.3 | 1.35E+00 |
| 12 | 1 | 1910.87 | 15 | 10 | 2.04 | 3826.09 | 3.90E-01 | 1.52E-03 | 46.9 | 7.38E-01 |

Flag: "*" = Peak area was modified by background subtraction

Nuclide Line Activity Report

Nuclide Type: natural

| Nuclide | Energy | Area | %Abn | %Eff | Uncorrected pCi/l | Decay Corr pCi/l | 2-Sigma %Error |
|---------|---------|-------|--------|-----------|----------------------|---------------------|-------------------|
| K-40 | 1460.81 | 7 | 10.67* | 4.688E-01 | 1.109E+01 | 1.109E+01 | 499.15 |
| TH-228 | 238.63 | 58 | 44.60* | 1.733E+00 | 5.861E+00 | 5.913E+00 | 88.85 |
| | 240.98 | ----- | 3.95 | 1.723E+00 | ----- | Line Not Found | ----- |

Flag: "*" = Keyline

Summary of Nuclide Activity

Sample ID : 13L28777-3

Acquisition date : 1-JUN-2006 10:44:10

| | | |
|---|----|--------|
| Total number of lines in spectrum | 12 | |
| Number of unidentified lines | 9 | |
| Number of lines tentatively identified by NID | 3 | 25.00% |

Nuclide Type : natural

| Nuclide | Hlife | Decay | Uncorrected pCi/l | Decay Corr pCi/l | Decay Corr 2-Sigma Error | 2-Sigma %Error | Flags |
|------------------|-----------|-------|----------------------|---------------------|-----------------------------|-------------------|-------|
| K-40 | 1.28E+09Y | 1.00 | 1.109E+01 | 1.109E+01 | 5.534E+01 | 499.15 | |
| TH-228 | 1.91Y | 1.01 | 5.861E+00 | 5.913E+00 | 5.254E+00 | 88.85 | |
| Total Activity : | | | 1.695E+01 | 1.700E+01 | | | |

Grand Total Activity : 1.695E+01 1.700E+01

Flags: "K" = Keyline not found
 "E" = Manually edited

"M" = Manually accepted
 "A" = Nuclide specific abn. limit

Unidentified Energy Lines

Page : 3

Sample ID : 13L28777-3

Acquisition date : 1-JUN-2006 10:44:10

| It | Energy | Area | Bkgnd | FWHM | Channel | Left | Pw | Cts/Sec | %Err | %Eff | Flags |
|----|---------|------|-------|------|---------|------|----|----------|------|----------|-------|
| 1 | 93.00 | 20 | 522 | 1.40 | 185.99 | 179 | 13 | 2.11E-03 | **** | 1.53E+00 | |
| 1 | 139.84 | 85 | 280 | 1.29 | 279.62 | 276 | 8 | 8.84E-03 | 73.9 | 2.02E+00 | |
| 1 | 198.56 | 101 | 251 | 2.15 | 397.01 | 392 | 10 | 1.05E-02 | 63.7 | 1.90E+00 | |
| 1 | 351.87 | 72 | 180 | 2.07 | 703.55 | 698 | 13 | 7.49E-03 | 84.8 | 1.34E+00 | |
| 1 | 583.98 | 92 | 76 | 1.60 | 1167.84 | 1162 | 14 | 9.63E-03 | 46.6 | 9.25E-01 | T |
| 1 | 596.02 | 44 | 60 | 2.24 | 1191.94 | 1186 | 11 | 4.61E-03 | 76.6 | 9.11E-01 | |
| 1 | 609.07 | 64 | 69 | 1.32 | 1218.06 | 1214 | 10 | 6.70E-03 | 60.0 | 8.97E-01 | |
| 1 | 1120.75 | 28 | 32 | 2.41 | 2242.35 | 2237 | 12 | 2.93E-03 | 98.6 | 5.69E-01 | |
| 1 | 1764.20 | 19 | 20 | 2.91 | 3531.92 | 3527 | 14 | 1.95E-03 | **** | 4.11E-01 | |
| 1 | 1910.87 | 15 | 10 | 2.04 | 3826.09 | 3822 | 10 | 1.52E-03 | 93.8 | 3.90E-01 | |

Flags: "T" = Tentatively associated

Summary of Nuclide Activity

| | | |
|---|----|--------|
| Total number of lines in spectrum | 12 | |
| Number of unidentified lines | 9 | |
| Number of lines tentatively identified by NID | 3 | 25.00% |

Nuclide Type : natural

| Nuclide | Hlife | Decay | Wtd Mean Uncorrected pCi/l | Wtd Mean Decay Corr pCi/l | Decay Corr 2-Sigma Error | 2-Sigma %Error | Flags |
|------------------|-----------|-------|----------------------------------|---------------------------------|-----------------------------|-------------------|-------|
| K-40 | 1.28E+09Y | 1.00 | 1.109E+01 | 1.109E+01 | 5.534E+01 | 499.15 | |
| TH-228 | 1.91Y | 1.01 | 5.861E+00 | 5.913E+00 | 5.254E+00 | 88.85 | |
| Total Activity : | | | 1.695E+01 | 1.700E+01 | | | |

Grand Total Activity : 1.695E+01 1.700E+01

Flags: "K" = Keyline not found "M" = Manually accepted
 "E" = Manually edited "A" = Nuclide specific abn. limit

Interference Report

No interference correction performed

Combined Activity-MDA Report

---- Identified Nuclides ----


| Nuclide | Activity (pCi/l) | Act error | MDA (pCi/l) | MDA error | Act/MDA |
|---------|---------------------|-----------|----------------|-----------|---------|
| K-40 | 1.109E+01 | 5.534E+01 | 4.308E+01 | 0.000E+00 | 0.257 |
| TH-228 | 5.913E+00 | 5.254E+00 | 8.700E+00 | 0.000E+00 | 0.680 |

---- Non-Identified Nuclides ----

| Nuclide | Key-Line Activity (pCi/l) | K.L. Ided | Act error | MDA (pCi/l) | MDA error | Act/MDA |
|---------|---------------------------------|--------------|-----------|----------------|-----------|---------|
|---------|---------------------------------|--------------|-----------|----------------|-----------|---------|

| | | | | | |
|---------|------------|-----------|---------------------|-----------|--------|
| BE-7 | -1.272E+01 | 2.780E+01 | 4.421E+01 | 0.000E+00 | -0.288 |
| NA-24 | -7.944E-02 | 3.180E-02 | Half-Life too short | | |
| CR-51 | -1.307E+01 | 3.104E+01 | 5.070E+01 | 0.000E+00 | -0.258 |
| MN-54 | -8.789E-01 | 3.078E+00 | 4.921E+00 | 0.000E+00 | -0.179 |
| CO-57 | -9.583E-01 | 3.027E+00 | 4.994E+00 | 0.000E+00 | -0.192 |
| CO-58 | -1.305E+00 | 3.196E+00 | 5.069E+00 | 0.000E+00 | -0.257 |
| FE-59 | -5.673E-01 | 6.440E+00 | 1.055E+01 | 0.000E+00 | -0.054 |
| CO-60 | -3.185E+00 | 3.066E+00 | 4.422E+00 | 0.000E+00 | -0.720 |
| ZN-65 | 7.090E-01 | 8.313E+00 | 1.168E+01 | 0.000E+00 | 0.061 |
| SE-75 | 6.986E-01 | 4.268E+00 | 6.966E+00 | 0.000E+00 | 0.100 |
| SR-85 | 1.287E+01 | 3.850E+00 | 7.161E+00 | 0.000E+00 | 1.797 |
| Y-88 | -2.394E+00 | 3.114E+00 | 4.530E+00 | 0.000E+00 | -0.529 |
| NB-94 | 2.053E-01 | 2.832E+00 | 4.695E+00 | 0.000E+00 | 0.044 |
| NB-95 | 1.342E+00 | 3.003E+00 | 5.095E+00 | 0.000E+00 | 0.263 |
| ZR-95 | 1.636E+00 | 5.487E+00 | 9.213E+00 | 0.000E+00 | 0.178 |
| MO-99 | -4.243E+00 | 2.017E+02 | 3.313E+02 | 0.000E+00 | -0.013 |
| RU-103 | 2.527E+00 | 3.596E+00 | 6.091E+00 | 0.000E+00 | 0.415 |
| RU-106 | -2.698E+00 | 2.843E+01 | 4.692E+01 | 0.000E+00 | -0.057 |
| AG-110m | -3.048E-02 | 2.991E+00 | 4.948E+00 | 0.000E+00 | -0.006 |
| SN-113 | -7.858E-01 | 4.129E+00 | 6.745E+00 | 0.000E+00 | -0.117 |
| SB-124 | 5.838E+00 | 6.057E+00 | 5.629E+00 | 0.000E+00 | 1.037 |
| SB-125 | 1.025E+01 | 8.445E+00 | 1.476E+01 | 0.000E+00 | 0.694 |
| TE-129M | 1.328E+01 | 4.053E+01 | 6.751E+01 | 0.000E+00 | 0.197 |
| I-131 | 7.422E-01 | 6.488E+00 | 1.079E+01 | 0.000E+00 | 0.069 |
| BA-133 | 5.234E+00 | 4.846E+00 | 7.315E+00 | 0.000E+00 | 0.715 |
| CS-134 | 5.299E+00 | 4.613E+00 | 5.814E+00 | 0.000E+00 | 0.911 |
| CS-136 | -1.216E+00 | 4.553E+00 | 7.291E+00 | 0.000E+00 | -0.167 |
| CS-137 | -9.177E-01 | 3.341E+00 | 5.432E+00 | 0.000E+00 | -0.169 |
| CE-139 | -1.144E+00 | 3.113E+00 | 5.074E+00 | 0.000E+00 | -0.226 |
| BA-140 | 4.367E+00 | 1.707E+01 | 2.816E+01 | 0.000E+00 | 0.155 |
| LA-140 | -2.612E+00 | 5.134E+00 | 7.963E+00 | 0.000E+00 | -0.328 |
| CE-141 | -1.878E+00 | 6.975E+00 | 9.750E+00 | 0.000E+00 | -0.193 |
| CE-144 | -2.711E+01 | 2.742E+01 | 3.718E+01 | 0.000E+00 | -0.729 |
| EU-152 | -1.152E+01 | 1.148E+01 | 1.511E+01 | 0.000E+00 | -0.762 |
| EU-154 | 1.968E+00 | 6.196E+00 | 1.042E+01 | 0.000E+00 | 0.189 |
| RA-226 | 1.455E+01 | 8.006E+01 | 1.381E+02 | 0.000E+00 | 0.105 |
| AC-228 | -8.052E+00 | 1.195E+01 | 1.937E+01 | 0.000E+00 | -0.416 |
| TH-232 | -8.029E+00 | 1.192E+01 | 1.931E+01 | 0.000E+00 | -0.416 |
| U-235 | -1.689E+01 | 2.677E+01 | 3.705E+01 | 0.000E+00 | -0.456 |
| U-238 | -7.033E+00 | 3.117E+02 | 5.205E+02 | 0.000E+00 | -0.014 |
| AM-241 | -6.189E+01 | 2.949E+01 | 4.498E+01 | 0.000E+00 | -1.376 |

A,13L28777-3 ,06/01/2006 13:24,05/23/2006 13:50, 3.622E+00,L28777-3 WG EX
 B,13L28777-3 ,LIBD ,06/01/2006 10:13,1335L090904
 C,K-40 ,YES, 1.109E+01, 5.534E+01, 4.308E+01,, 0.257
 C,TH-228 ,YES, 5.913E+00, 5.254E+00, 8.700E+00,, 0.680
 C,BE-7 ,NO , -1.272E+01, 2.780E+01, 4.421E+01,, -0.288
 C,CR-51 ,NO , -1.307E+01, 3.104E+01, 5.070E+01,, -0.258
 C,MN-54 ,NO , -8.789E-01, 3.078E+00, 4.921E+00,, -0.179
 C,CO-57 ,NO , -9.583E-01, 3.027E+00, 4.994E+00,, -0.192
 C,CO-58 ,NO , -1.305E+00, 3.196E+00, 5.069E+00,, -0.257
 C,FE-59 ,NO , -5.673E-01, 6.440E+00, 1.055E+01,, -0.054
 C,CO-60 ,NO , -3.185E+00, 3.066E+00, 4.422E+00,, -0.720
 C,ZN-65 ,NO , 7.090E-01, 8.313E+00, 1.168E+01,, 0.061
 C,SE-75 ,NO , 6.986E-01, 4.268E+00, 6.966E+00,, 0.100
 C,SR-85 ,NO , 1.287E+01, 3.850E+00, 7.161E+00,, 1.797
 C,Y-88 ,NO , -2.394E+00, 3.114E+00, 4.530E+00,, -0.529
 C,NB-94 ,NO , 2.053E-01, 2.832E+00, 4.695E+00,, 0.044
 C,NB-95 ,NO , 1.342E+00, 3.003E+00, 5.095E+00,, 0.263
 C,ZR-95 ,NO , 1.636E+00, 5.487E+00, 9.213E+00,, 0.178
 C,MO-99 ,NO , -4.243E+00, 2.017E+02, 3.313E+02,, -0.013
 C,RU-103 ,NO , 2.527E+00, 3.596E+00, 6.091E+00,, 0.415
 C,RU-106 ,NO , -2.698E+00, 2.843E+01, 4.692E+01,, -0.057
 C,AG-110m ,NO , -3.048E-02, 2.991E+00, 4.948E+00,, -0.006
 C,SN-113 ,NO , -7.858E-01, 4.129E+00, 6.745E+00,, -0.117
 C,SB-124 ,NO , 5.838E+00, 6.057E+00, 5.629E+00,, 1.037
 C,SB-125 ,NO , 1.025E+01, 8.445E+00, 1.476E+01,, 0.694
 C,TE-129M ,NO , 1.328E+01, 4.053E+01, 6.751E+01,, 0.197
 C,I-131 ,NO , 7.422E-01, 6.488E+00, 1.079E+01,, 0.069
 C,BA-133 ,NO , 5.234E+00, 4.846E+00, 7.315E+00,, 0.715
 C,CS-134 ,NO , 5.299E+00, 4.613E+00, 5.814E+00,, 0.911
 C,CS-136 ,NO , -1.216E+00, 4.553E+00, 7.291E+00,, -0.167
 C,CS-137 ,NO , -9.177E-01, 3.341E+00, 5.432E+00,, -0.169
 C,CE-139 ,NO , -1.144E+00, 3.113E+00, 5.074E+00,, -0.226
 C,BA-140 ,NO , 4.367E+00, 1.707E+01, 2.816E+01,, 0.155
 C,LA-140 ,NO , -2.612E+00, 5.134E+00, 7.963E+00,, -0.328
 C,CE-141 ,NO , -1.878E+00, 6.975E+00, 9.750E+00,, -0.193
 C,CE-144 ,NO , -2.711E+01, 2.742E+01, 3.718E+01,, -0.729
 C,EU-152 ,NO , -1.152E+01, 1.148E+01, 1.511E+01,, -0.762
 C,EU-154 ,NO , 1.968E+00, 6.196E+00, 1.042E+01,, 0.189
 C,RA-226 ,NO , 1.455E+01, 8.006E+01, 1.381E+02,, 0.105
 C,AC-228 ,NO , -8.052E+00, 1.195E+01, 1.937E+01,, -0.416
 C,TH-232 ,NO , -8.029E+00, 1.192E+01, 1.931E+01,, -0.416
 C,U-235 ,NO , -1.689E+01, 2.677E+01, 3.705E+01,, -0.456
 C,U-238 ,NO , -7.033E+00, 3.117E+02, 5.205E+02,, -0.014
 C,AM-241 ,NO , -6.189E+01, 2.949E+01, 4.498E+01,, -1.376

Sec. Review: Analyst: LIMS: 

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VAX/VMS Teledyne Brown Eng. Laboratory Gamma Report: 1-JUN-2006 13:27:07.40
 TBE07 P-10768B HpGe ***** Aquisition Date/Time: 1-JUN-2006 10:57:01.52

LIMS No., Customer Name, Client ID: L28777-4 WG DRESDEN

Sample ID : 07L28777-4 Smple Date: 23-MAY-2006 11:14:00.
 Sample Type : WG Geometry : 0735L090904
 Quantity : 3.62530E+00 L BKGFILE : 07BG050506MT
 Start Channel : 40 Energy Tol : 1.00000 Real Time : 0 02:30:01.76
 End Channel : 4090 Pk Srch Sens: 5.00000 Live time : 0 02:30:00.00
 MDA Constant : 0.00 Library Used: LIBD

| Pk | It | Energy | Area | Bkgnd | FWHM | Channel | %Eff | Cts/Sec | %Err | Fit |
|----|----|---------|------|-------|------|---------|----------|----------|------|----------|
| 1 | 1 | 66.16* | 114 | 276 | 1.67 | 133.17 | 7.19E-01 | 1.26E-02 | 28.5 | 9.02E-01 |
| 2 | 1 | 140.03* | 88 | 277 | 1.69 | 280.95 | 2.09E+00 | 9.81E-03 | 37.3 | 3.57E+00 |
| 3 | 1 | 186.20* | 79 | 223 | 2.33 | 373.32 | 2.02E+00 | 8.82E-03 | 44.5 | 1.90E+00 |
| 4 | 1 | 569.60* | 28 | 33 | 2.10 | 1140.29 | 1.03E+00 | 3.06E-03 | 41.8 | 6.73E+00 |
| 5 | 1 | 583.43* | 72 | 40 | 3.61 | 1167.94 | 1.01E+00 | 8.01E-03 | 26.2 | 1.55E+00 |
| 6 | 1 | 595.92 | 30 | 78 | 1.94 | 1192.92 | 9.96E-01 | 3.32E-03 | 62.1 | 1.60E+00 |
| 7 | 1 | 609.31* | 48 | 64 | 2.05 | 1219.72 | 9.81E-01 | 5.38E-03 | 38.8 | 1.87E+00 |
| 8 | 1 | 1313.25 | 52 | 8 | 8.94 | 2627.42 | 5.56E-01 | 5.74E-03 | 16.5 | 1.26E+00 |

Flag: "*" = Peak area was modified by background subtraction

Nuclide Line Activity Report

Nuclide Type: natural

| Nuclide | Energy | Area | %Abn | %Eff | Uncorrected pCi/L | Decay Corr pCi/L | 2-Sigma %Error |
|---------|--------|------|-------|-----------|----------------------|---------------------|-------------------|
| RA-226 | 186.21 | 79 | 3.28* | 2.020E+00 | 9.922E+01 | 9.922E+01 | 88.93 |

Flag: "*" = Keyline

Summary of Nuclide Activity

Page : 2

Sample ID : 07L28777-4

Acquisition date : 1-JUN-2006 10:57:01

| | | |
|---|---|--------|
| Total number of lines in spectrum | 8 | |
| Number of unidentified lines | 6 | |
| Number of lines tentatively identified by NID | 2 | 25.00% |

Nuclide Type : natural

| Nuclide | Hlife | Decay | Uncorrected pCi/L | Decay Corr pCi/L | Decay Corr 2-Sigma Error | 2-Sigma %Error | Flags |
|------------------|----------|-------|----------------------|---------------------|-----------------------------|-------------------|-------|
| RA-226 | 1600.00Y | 1.00 | 9.922E+01 | 9.922E+01 | 8.824E+01 | 88.93 | |
| Total Activity : | | | 9.922E+01 | 9.922E+01 | | | |

| | | |
|------------------------|-----------|-----------|
| Grand Total Activity : | 9.922E+01 | 9.922E+01 |
|------------------------|-----------|-----------|

Flags: "K" = Keyline not found
 "E" = Manually edited

"M" = Manually accepted
 "A" = Nuclide specific abn. limit

Unidentified Energy Lines

Page : 3

Sample ID : 07L28777-4

Acquisition date : 1-JUN-2006 10:57:01

| It | Energy | Area | Bkgnd | FWHM | Channel | Left | Pw | Cts/Sec | %Err | %Eff | Flags |
|----|---------|------|-------|------|---------|------|----|----------|------|----------|-------|
| 1 | 66.16 | 114 | 276 | 1.67 | 133.17 | 129 | 9 | 1.26E-02 | 57.1 | 7.19E-01 | |
| 1 | 140.03 | 88 | 277 | 1.69 | 280.95 | 277 | 10 | 9.81E-03 | 74.5 | 2.09E+00 | |
| 1 | 569.60 | 28 | 33 | 2.10 | 1140.29 | 1137 | 8 | 3.06E-03 | 83.5 | 1.03E+00 | |
| 1 | 583.43 | 72 | 40 | 3.61 | 1167.94 | 1161 | 18 | 8.01E-03 | 52.4 | 1.01E+00 | T |
| 1 | 595.92 | 30 | 78 | 1.94 | 1192.92 | 1187 | 12 | 3.32E-03 | **** | 9.96E-01 | |
| 1 | 609.31 | 48 | 64 | 2.05 | 1219.72 | 1214 | 11 | 5.38E-03 | 77.5 | 9.81E-01 | |
| 1 | 1313.25 | 52 | 8 | 8.94 | 2627.42 | 2623 | 16 | 5.74E-03 | 33.1 | 5.56E-01 | |

Flags: "T" = Tentatively associated

Summary of Nuclide Activity

Total number of lines in spectrum 8
 Number of unidentified lines 6
 Number of lines tentatively identified by NID 2 25.00%

Nuclide Type : natural

| Nuclide | Hlife | Decay | Wtd Mean Uncorrected pCi/L | Wtd Mean Decay Corr pCi/L | Decay Corr 2-Sigma Error | 2-Sigma %Error | Flags |
|------------------|----------|-------|----------------------------------|---------------------------------|-----------------------------|-------------------|-------|
| RA-226 | 1600.00Y | 1.00 | 9.922E+01 | 9.922E+01 | 8.824E+01 | 88.93 | |
| Total Activity : | | | 9.922E+01 | 9.922E+01 | | | |

Grand Total Activity : 9.922E+01 9.922E+01

Flags: "K" = Keyline not found

"M" = Manually accepted

"E" = Manually edited

"A" = Nuclide specific abn. limit

Interference Report

No interference correction performed

Combined Activity-MDA Report

---- Identified Nuclides ----

| Nuclide | Activity (pCi/L) | Act error | MDA (pCi/L) | MDA error | Act/MDA |
|---------|---------------------|-----------|----------------|-----------|---------|
| RA-226 | 9.922E+01 | 8.824E+01 | 1.033E+02 | 0.000E+00 | 0.961 |

---- Non-Identified Nuclides ----

| Nuclide | Key-Line Activity (pCi/L) | K.L. Ided | Act error | MDA (pCi/L) | MDA error | Act/MDA |
|---------|---------------------------------|--------------|-----------|---------------------|-----------|---------|
| BE-7 | 9.693E+00 | | 2.541E+01 | 4.317E+01 | 0.000E+00 | 0.225 |
| NA-24 | -2.935E-02 | | 3.426E-02 | Half-Life too short | | |
| K-40 | 1.162E+01 | | 3.982E+01 | 7.764E+01 | 0.000E+00 | 0.150 |
| CR-51 | -3.117E+01 | | 2.830E+01 | 4.302E+01 | 0.000E+00 | -0.725 |

| | | | | | |
|---------|------------|-----------|-----------|-----------|--------|
| MN-54 | 8.340E-01 | 2.857E+00 | 4.843E+00 | 0.000E+00 | 0.172 |
| CO-57 | 2.131E+00 | 2.552E+00 | 4.400E+00 | 0.000E+00 | 0.484 |
| CO-58 | -4.101E+00 | 3.085E+00 | 4.470E+00 | 0.000E+00 | -0.917 |
| FE-59 | 9.905E-01 | 5.969E+00 | 1.000E+01 | 0.000E+00 | 0.099 |
| CO-60 | 3.472E-01 | 2.854E+00 | 4.777E+00 | 0.000E+00 | 0.073 |
| ZN-65 | 9.076E+00 | 6.440E+00 | 1.178E+01 | 0.000E+00 | 0.770 |
| SE-75 | 2.248E+00 | 3.712E+00 | 6.264E+00 | 0.000E+00 | 0.359 |
| SR-85 | 1.686E+01 | 3.576E+00 | 7.063E+00 | 0.000E+00 | 2.387 |
| Y-88 | 1.533E+00 | 3.689E+00 | 6.287E+00 | 0.000E+00 | 0.244 |
| NB-94 | -1.824E+00 | 2.857E+00 | 4.509E+00 | 0.000E+00 | -0.404 |
| NB-95 | 1.420E+00 | 3.157E+00 | 5.324E+00 | 0.000E+00 | 0.267 |
| ZR-95 | 1.406E+00 | 5.636E+00 | 9.386E+00 | 0.000E+00 | 0.150 |
| MO-99 | -1.979E+00 | 1.978E+02 | 3.242E+02 | 0.000E+00 | -0.006 |
| RU-103 | 7.159E-01 | 3.269E+00 | 5.485E+00 | 0.000E+00 | 0.131 |
| RU-106 | -1.769E+01 | 2.799E+01 | 4.348E+01 | 0.000E+00 | -0.407 |
| AG-110m | -1.996E-02 | 2.718E+00 | 4.504E+00 | 0.000E+00 | -0.004 |
| SN-113 | -1.440E+00 | 3.628E+00 | 5.828E+00 | 0.000E+00 | -0.247 |
| SB-124 | -6.680E+00 | 8.421E+00 | 4.962E+00 | 0.000E+00 | -1.346 |
| SB-125 | 3.844E+00 | 7.506E+00 | 1.262E+01 | 0.000E+00 | 0.305 |
| TE-129M | -6.602E-01 | 3.504E+01 | 5.669E+01 | 0.000E+00 | -0.012 |
| I-131 | 3.719E+00 | 5.824E+00 | 9.952E+00 | 0.000E+00 | 0.374 |
| BA-133 | -2.442E+00 | 4.080E+00 | 6.570E+00 | 0.000E+00 | -0.372 |
| CS-134 | 2.085E+00 | 5.781E+00 | 5.322E+00 | 0.000E+00 | 0.392 |
| CS-136 | 7.310E-01 | 4.463E+00 | 7.342E+00 | 0.000E+00 | 0.100 |
| CS-137 | -7.268E-01 | 3.000E+00 | 4.889E+00 | 0.000E+00 | -0.149 |
| CE-139 | -8.211E-03 | 2.677E+00 | 4.386E+00 | 0.000E+00 | -0.002 |
| BA-140 | -4.949E+00 | 1.572E+01 | 2.534E+01 | 0.000E+00 | -0.195 |
| LA-140 | 4.144E-01 | 5.552E+00 | 9.252E+00 | 0.000E+00 | 0.045 |
| CE-141 | 3.151E+00 | 5.879E+00 | 8.614E+00 | 0.000E+00 | 0.366 |
| CE-144 | -9.293E+00 | 2.167E+01 | 3.165E+01 | 0.000E+00 | -0.294 |
| EU-152 | -3.152E+01 | 9.394E+00 | 1.311E+01 | 0.000E+00 | -2.405 |
| EU-154 | 5.774E+00 | 5.351E+00 | 9.293E+00 | 0.000E+00 | 0.621 |
| AC-228 | 5.455E+00 | 1.028E+01 | 1.842E+01 | 0.000E+00 | 0.296 |
| TH-228 | 4.553E+00 | 5.325E+00 | 9.393E+00 | 0.000E+00 | 0.485 |
| TH-232 | 5.439E+00 | 1.025E+01 | 1.836E+01 | 0.000E+00 | 0.296 |
| U-235 | -9.579E+00 | 2.355E+01 | 3.290E+01 | 0.000E+00 | -0.291 |
| U-238 | 1.755E+02 | 3.153E+02 | 5.417E+02 | 0.000E+00 | 0.324 |
| AM-241 | -1.100E+01 | 2.249E+01 | 3.474E+01 | 0.000E+00 | -0.317 |

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A,07L28777-4      ,06/01/2006 13:27,05/23/2006 11:14,    3.625E+00,L28777-4 WG DR
B,07L28777-4      ,LIBD      ,06/23/2005 07:26,0735L090904
C,RA-226    ,YES,    9.922E+01,    8.824E+01,    1.033E+02,,    0.961
C,BE-7      ,NO ,    9.693E+00,    2.541E+01,    4.317E+01,,    0.225
C,K-40      ,NO ,    1.162E+01,    3.982E+01,    7.764E+01,,    0.150
C,CR-51     ,NO ,   -3.117E+01,    2.830E+01,    4.302E+01,,   -0.725
C,MN-54     ,NO ,    8.340E-01,    2.857E+00,    4.843E+00,,    0.172
C,CO-57     ,NO ,    2.131E+00,    2.552E+00,    4.400E+00,,    0.484
C,CO-58     ,NO ,   -4.101E+00,    3.085E+00,    4.470E+00,,   -0.917
C,FE-59     ,NO ,    9.905E-01,    5.969E+00,    1.000E+01,,    0.099
C,CO-60     ,NO ,    3.472E-01,    2.854E+00,    4.777E+00,,    0.073
C,ZN-65     ,NO ,    9.076E+00,    6.440E+00,    1.178E+01,,    0.770
C,SE-75     ,NO ,    2.248E+00,    3.712E+00,    6.264E+00,,    0.359
C,SR-85     ,NO ,    1.686E+01,    3.576E+00,    7.063E+00,,    2.387
C,Y-88      ,NO ,    1.533E+00,    3.689E+00,    6.287E+00,,    0.244
C,NB-94     ,NO ,   -1.824E+00,    2.857E+00,    4.509E+00,,   -0.404
C,NB-95     ,NO ,    1.420E+00,    3.157E+00,    5.324E+00,,    0.267
C,ZR-95     ,NO ,    1.406E+00,    5.636E+00,    9.386E+00,,    0.150
C,MO-99     ,NO ,   -1.979E+00,    1.978E+02,    3.242E+02,,   -0.006
C,RU-103    ,NO ,    7.159E-01,    3.269E+00,    5.485E+00,,    0.131
C,RU-106    ,NO ,   -1.769E+01,    2.799E+01,    4.348E+01,,   -0.407
C,AG-110m   ,NO ,   -1.996E-02,    2.718E+00,    4.504E+00,,   -0.004
C,SN-113    ,NO ,   -1.440E+00,    3.628E+00,    5.828E+00,,   -0.247
C,SB-124    ,NO ,   -6.680E+00,    8.421E+00,    4.962E+00,,   -1.346
C,SB-125    ,NO ,    3.844E+00,    7.506E+00,    1.262E+01,,    0.305
C,TE-129M   ,NO ,   -6.602E-01,    3.504E+01,    5.669E+01,,   -0.012
C,I-131     ,NO ,    3.719E+00,    5.824E+00,    9.952E+00,,    0.374
C,BA-133    ,NO ,   -2.442E+00,    4.080E+00,    6.570E+00,,   -0.372
C,CS-134    ,NO ,    2.085E+00,    5.781E+00,    5.322E+00,,    0.392
C,CS-136    ,NO ,    7.310E-01,    4.463E+00,    7.342E+00,,    0.100
C,CS-137    ,NO ,   -7.268E-01,    3.000E+00,    4.889E+00,,   -0.149
C,CE-139    ,NO ,   -8.211E-03,    2.677E+00,    4.386E+00,,   -0.002
C,BA-140    ,NO ,   -4.949E+00,    1.572E+01,    2.534E+01,,   -0.195
C,LA-140    ,NO ,    4.144E-01,    5.552E+00,    9.252E+00,,    0.045
C,CE-141    ,NO ,    3.151E+00,    5.879E+00,    8.614E+00,,    0.366
C,CE-144    ,NO ,   -9.293E+00,    2.167E+01,    3.165E+01,,   -0.294
C,EU-152    ,NO ,   -3.152E+01,    9.394E+00,    1.311E+01,,   -2.405
C,EU-154    ,NO ,    5.774E+00,    5.351E+00,    9.293E+00,,    0.621
C,AC-228    ,NO ,    5.455E+00,    1.028E+01,    1.842E+01,,    0.296
C,TH-228    ,NO ,    4.553E+00,    5.325E+00,    9.393E+00,,    0.485
C,TH-232    ,NO ,    5.439E+00,    1.025E+01,    1.836E+01,,    0.296
C,U-235     ,NO ,   -9.579E+00,    2.355E+01,    3.290E+01,,   -0.291
C,U-238     ,NO ,    1.755E+02,    3.153E+02,    5.417E+02,,    0.324
C,AM-241    ,NO ,   -1.100E+01,    2.249E+01,    3.474E+01,,   -0.317

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Sec. Review: Analyst: LIMS: ✓

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VAX/VMS Teledyne Brown Eng. Laboratory Gamma Report: 1-JUN-2006 14:17:34.86

TBE23 03017322 HpGe ***** Aquisition Date/Time: 1-JUN-2006 10:57:06.64

LIMS No., Customer Name, Client ID: L28777-5 WG DRESDEN

| | | | |
|---------------|-----------------|---------------|-----------------------|
| Sample ID | : 23L28777-5 | Smple Date: | 23-MAY-2006 13:36:00. |
| Sample Type | : WG | Geometry | : 2335L090704 |
| Quantity | : 3.58520E+00 L | BKGFILE | : 23BG050506MT |
| Start Channel | : 50 | Energy Tol | : 1.50000 |
| End Channel | : 4090 | Pk Srch Sens: | 5.00000 |
| MDA Constant | : 0.00 | Library Used: | LIBD |
| | | Real Time | : 0 03:20:08.06 |
| | | Live time | : 0 03:20:00.00 |

| Pk | It | Energy | Area | Bkgnd | FWHM | Channel | %Eff | Cts/Sec | %Err | Fit |
|----|----|----------|------|-------|------|---------|----------|----------|-------|----------|
| 1 | 4 | 33.76* | 15 | 26 | 1.19 | 67.84 | 9.34E-02 | 1.24E-03 | 132.7 | 2.33E+00 |
| 2 | 0 | 63.32* | 2 | 369 | 0.89 | 126.92 | 9.42E-01 | 1.49E-04 | ***** | |
| 3 | 0 | 65.83* | 29 | 378 | 1.30 | 131.94 | 1.02E+00 | 2.45E-03 | 113.1 | |
| 4 | 0 | 92.56* | 6 | 466 | 1.33 | 185.36 | 1.69E+00 | 5.05E-04 | 671.9 | |
| 5 | 0 | 139.52* | 90 | 472 | 1.16 | 279.20 | 2.05E+00 | 7.52E-03 | 45.5 | |
| 6 | 0 | 197.86* | 135 | 309 | 1.36 | 395.80 | 1.90E+00 | 1.13E-02 | 26.4 | |
| 7 | 0 | 295.19* | 19 | 188 | 1.02 | 590.35 | 1.50E+00 | 1.56E-03 | 142.9 | |
| 8 | 0 | 351.86* | 91 | 187 | 1.08 | 703.62 | 1.32E+00 | 7.60E-03 | 33.2 | |
| 9 | 0 | 582.91* | 21 | 80 | 1.07 | 1165.52 | 8.89E-01 | 1.79E-03 | 85.6 | |
| 10 | 0 | 609.07* | 107 | 79 | 1.23 | 1217.82 | 8.59E-01 | 8.90E-03 | 21.2 | |
| 11 | 0 | 1120.26* | 57 | 55 | 1.93 | 2240.05 | 5.52E-01 | 4.71E-03 | 35.8 | |
| 12 | 0 | 1460.96* | 13 | 51 | 1.62 | 2921.57 | 4.59E-01 | 1.10E-03 | 153.6 | |

Flag: "*" = Peak area was modified by background subtraction

Nuclide Line Activity Report

Nuclide Type: natural

| Nuclide | Energy | Area | %Abn | %Eff | Uncorrected pCi/L | Decay Corr pCi/L | 2-Sigma %Error |
|---------|---------|------|--------|-----------|----------------------|---------------------|-------------------|
| K-40 | 1460.81 | 13 | 10.67* | 4.594E-01 | 1.692E+01 | 1.692E+01 | 307.20 |

Flag: "*" = Keyline

Summary of Nuclide Activity
 Sample ID : 23L28777-5

Page : 2
 Acquisition date : 1-JUN-2006 10:57:06

| | | |
|---|----|--------|
| Total number of lines in spectrum | 12 | |
| Number of unidentified lines | 10 | |
| Number of lines tentatively identified by NID | 2 | 16.67% |

Nuclide Type : natural

| Nuclide | Hlife | Decay | Uncorrected pCi/L | Decay Corr pCi/L | Decay Corr 2-Sigma Error | 2-Sigma %Error | Flags |
|------------------|-----------|-------|----------------------|---------------------|-----------------------------|-------------------|-------|
| K-40 | 1.28E+09Y | 1.00 | 1.692E+01 | 1.692E+01 | 5.198E+01 | 307.20 | |
| | | | ----- | ----- | | | |
| Total Activity : | | | 1.692E+01 | 1.692E+01 | | | |

Grand Total Activity : 1.692E+01 1.692E+01

Flags: "K" = Keyline not found
 "E" = Manually edited

"M" = Manually accepted
 "A" = Nuclide specific abn. limit

Unidentified Energy Lines
Sample ID : 23L28777-5

Page : 3
Acquisition date : 1-JUN-2006 10:57:06

| It | Energy | Area | Bkgnd | FWHM | Channel | Left | Pw | Cts/Sec | %Err | %Eff | Flags |
|----|---------|------|-------|------|---------|------|----|----------|------|----------|-------|
| 4 | 33.76 | 15 | 26 | 1.19 | 67.84 | 64 | 19 | 1.24E-03 | **** | 9.34E-02 | |
| 0 | 63.32 | 2 | 369 | 0.89 | 126.92 | 124 | 7 | 1.49E-04 | **** | 9.42E-01 | |
| 0 | 65.83 | 29 | 378 | 1.30 | 131.94 | 131 | 7 | 2.45E-03 | **** | 1.02E+00 | |
| 0 | 92.56 | 6 | 466 | 1.33 | 185.36 | 182 | 8 | 5.05E-04 | **** | 1.69E+00 | |
| 0 | 139.52 | 90 | 472 | 1.16 | 279.20 | 275 | 9 | 7.52E-03 | 91.0 | 2.05E+00 | |
| 0 | 197.86 | 135 | 309 | 1.36 | 395.80 | 391 | 10 | 1.13E-02 | 52.9 | 1.90E+00 | |
| 0 | 295.19 | 19 | 188 | 1.02 | 590.35 | 587 | 9 | 1.56E-03 | **** | 1.50E+00 | |
| 0 | 351.86 | 91 | 187 | 1.08 | 703.62 | 698 | 12 | 7.60E-03 | 66.4 | 1.32E+00 | |
| 0 | 582.91 | 21 | 80 | 1.07 | 1165.52 | 1160 | 10 | 1.79E-03 | **** | 8.89E-01 | T |
| 0 | 609.07 | 107 | 79 | 1.23 | 1217.82 | 1212 | 13 | 8.90E-03 | 42.4 | 8.59E-01 | |
| 0 | 1120.26 | 57 | 55 | 1.93 | 2240.05 | 2231 | 20 | 4.71E-03 | 71.5 | 5.52E-01 | |

Flags: "T" = Tentatively associated

Summary of Nuclide Activity

| | |
|---|---------------|
| Total number of lines in spectrum | 12 |
| Number of unidentified lines | 10 |
| Number of lines tentatively identified by NID | 2 16.67% |

Nuclide Type : natural

| Nuclide | Hlife | Decay | Wtd Mean Uncorrected pCi/L | Wtd Mean Decay Corr pCi/L | Decay Corr 2-Sigma Error | 2-Sigma %Error | Flags |
|------------------|-----------|-------|----------------------------------|---------------------------------|-----------------------------|-------------------|-------|
| K-40 | 1.28E+09Y | 1.00 | 1.692E+01 | 1.692E+01 | 5.198E+01 | 307.20 | |
| Total Activity : | | | 1.692E+01 | 1.692E+01 | | | |

Grand Total Activity : 1.692E+01 1.692E+01

Flags: "K" = Keyline not found "M" = Manually accepted
"E" = Manually edited "A" = Nuclide specific abn. limit

Interference Report

No interference correction performed

Combined Activity-MDA Report

---- Identified Nuclides ----

| Nuclide | Activity (pCi/L) | Act error | MDA (pCi/L) | MDA error | Act/MDA |
|---------|---------------------|-----------|----------------|-----------|---------|
| K-40 | 1.692E+01 | 5.198E+01 | 4.118E+01 | 0.000E+00 | 0.411 |

---- Non-Identified Nuclides ----


| Nuclide | Key-Line Activity (pCi/L) | K.L. Ided | Act error | MDA (pCi/L) | MDA error | Act/MDA |
|---------|---------------------------------|--------------|-----------|----------------|-----------|---------|
|---------|---------------------------------|--------------|-----------|----------------|-----------|---------|

| | | | | | |
|---------|------------|-----------|---------------------|-----------|--------|
| BE-7 | 7.692E-01 | 2.663E+01 | 4.532E+01 | 0.000E+00 | 0.017 |
| NA-24 | -4.752E-02 | 2.967E-02 | Half-Life too short | | |
| CR-51 | -1.514E+01 | 2.944E+01 | 4.934E+01 | 0.000E+00 | -0.307 |
| MN-54 | 2.808E+00 | 2.701E+00 | 4.996E+00 | 0.000E+00 | 0.562 |
| CO-57 | 1.929E+00 | 3.268E+00 | 5.569E+00 | 0.000E+00 | 0.346 |
| CO-58 | -3.832E-01 | 2.925E+00 | 5.026E+00 | 0.000E+00 | -0.076 |
| FE-59 | 3.304E+00 | 5.627E+00 | 1.036E+01 | 0.000E+00 | 0.319 |
| CO-60 | 7.685E-01 | 2.713E+00 | 4.917E+00 | 0.000E+00 | 0.156 |
| ZN-65 | 1.527E+01 | 7.029E+00 | 1.264E+01 | 0.000E+00 | 1.208 |
| SE-75 | -1.566E+00 | 4.033E+00 | 6.820E+00 | 0.000E+00 | -0.230 |
| SR-85 | 1.074E+01 | 3.334E+00 | 6.348E+00 | 0.000E+00 | 1.691 |
| Y-88 | -2.076E+00 | 2.982E+00 | 4.971E+00 | 0.000E+00 | -0.418 |
| NB-94 | -5.034E-01 | 2.560E+00 | 4.396E+00 | 0.000E+00 | -0.115 |
| NB-95 | 3.666E+00 | 2.966E+00 | 5.513E+00 | 0.000E+00 | 0.665 |
| ZR-95 | 1.186E+00 | 5.102E+00 | 8.992E+00 | 0.000E+00 | 0.132 |
| MO-99 | 8.097E+01 | 1.891E+02 | 3.375E+02 | 0.000E+00 | 0.240 |
| RU-103 | 1.675E+00 | 3.412E+00 | 5.922E+00 | 0.000E+00 | 0.283 |
| RU-106 | -1.935E+01 | 2.555E+01 | 4.197E+01 | 0.000E+00 | -0.461 |
| AG-110m | 1.376E+00 | 2.717E+00 | 4.862E+00 | 0.000E+00 | 0.283 |
| SN-113 | 1.730E+00 | 3.920E+00 | 6.798E+00 | 0.000E+00 | 0.255 |
| SB-124 | -3.693E+00 | 3.808E+00 | 5.166E+00 | 0.000E+00 | -0.715 |
| SB-125 | -3.405E+00 | 8.063E+00 | 1.347E+01 | 0.000E+00 | -0.253 |
| TE-129M | 9.200E+00 | 3.850E+01 | 6.619E+01 | 0.000E+00 | 0.139 |
| I-131 | 5.664E+00 | 6.270E+00 | 1.107E+01 | 0.000E+00 | 0.512 |
| BA-133 | 4.698E+00 | 4.757E+00 | 7.243E+00 | 0.000E+00 | 0.649 |
| CS-134 | 3.034E+00 | 3.919E+00 | 5.983E+00 | 0.000E+00 | 0.507 |
| CS-136 | 1.835E+00 | 4.134E+00 | 7.390E+00 | 0.000E+00 | 0.248 |
| CS-137 | -1.107E+00 | 2.931E+00 | 4.988E+00 | 0.000E+00 | -0.222 |
| CE-139 | -1.197E+00 | 3.259E+00 | 5.401E+00 | 0.000E+00 | -0.222 |
| BA-140 | -3.173E+00 | 1.489E+01 | 2.507E+01 | 0.000E+00 | -0.127 |
| LA-140 | -1.990E+00 | 4.846E+00 | 8.386E+00 | 0.000E+00 | -0.237 |
| CE-141 | -4.907E-01 | 7.682E+00 | 1.090E+01 | 0.000E+00 | -0.045 |
| CE-144 | -2.248E+01 | 2.926E+01 | 4.060E+01 | 0.000E+00 | -0.554 |
| EU-152 | -1.713E+01 | 1.147E+01 | 1.515E+01 | 0.000E+00 | -1.131 |
| EU-154 | 5.478E+00 | 6.734E+00 | 1.153E+01 | 0.000E+00 | 0.475 |
| RA-226 | 4.668E+01 | 7.872E+01 | 1.363E+02 | 0.000E+00 | 0.343 |
| AC-228 | 5.960E-01 | 1.024E+01 | 1.819E+01 | 0.000E+00 | 0.033 |
| TH-228 | 2.991E+00 | 5.710E+00 | 9.712E+00 | 0.000E+00 | 0.308 |
| TH-232 | 5.943E-01 | 1.021E+01 | 1.814E+01 | 0.000E+00 | 0.033 |
| U-235 | 5.372E+00 | 2.947E+01 | 4.224E+01 | 0.000E+00 | 0.127 |
| U-238 | 1.753E+02 | 3.256E+02 | 5.891E+02 | 0.000E+00 | 0.298 |
| AM-241 | 2.767E+01 | 1.905E+01 | 2.831E+01 | 0.000E+00 | 0.977 |

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A,23L28777-5      ,06/01/2006 14:17,05/23/2006 13:36,    3.585E+00,L28777-5 WG DR
B,23L28777-5      ,LIBD      ,06/01/2006 10:14,2335L090704
C,K-40      ,YES,    1.692E+01,    5.198E+01,    4.118E+01,,    0.411
C,BE-7      ,NO ,    7.692E-01,    2.663E+01,    4.532E+01,,    0.017
C,CR-51     ,NO ,   -1.514E+01,    2.944E+01,    4.934E+01,,   -0.307
C,MN-54     ,NO ,    2.808E+00,    2.701E+00,    4.996E+00,,    0.562
C,CO-57     ,NO ,    1.929E+00,    3.268E+00,    5.569E+00,,    0.346
C,CO-58     ,NO ,   -3.832E-01,    2.925E+00,    5.026E+00,,   -0.076
C,FE-59     ,NO ,    3.304E+00,    5.627E+00,    1.036E+01,,    0.319
C,CO-60     ,NO ,    7.685E-01,    2.713E+00,    4.917E+00,,    0.156
C,ZN-65     ,NO ,    1.527E+01,    7.029E+00,    1.264E+01,,    1.208
C,SE-75     ,NO ,   -1.566E+00,    4.033E+00,    6.820E+00,,   -0.230
C,SR-85     ,NO ,    1.074E+01,    3.334E+00,    6.348E+00,,    1.691
C,Y-88      ,NO ,   -2.076E+00,    2.982E+00,    4.971E+00,,   -0.418
C,NB-94     ,NO ,   -5.034E-01,    2.560E+00,    4.396E+00,,   -0.115
C,NB-95     ,NO ,    3.666E+00,    2.966E+00,    5.513E+00,,    0.665
C,ZR-95     ,NO ,    1.186E+00,    5.102E+00,    8.992E+00,,    0.132
C,MO-99     ,NO ,    8.097E+01,    1.891E+02,    3.375E+02,,    0.240
C,RU-103    ,NO ,    1.675E+00,    3.412E+00,    5.922E+00,,    0.283
C,RU-106    ,NO ,   -1.935E+01,    2.555E+01,    4.197E+01,,   -0.461
C,AG-110m   ,NO ,    1.376E+00,    2.717E+00,    4.862E+00,,    0.283
C,SN-113    ,NO ,    1.730E+00,    3.920E+00,    6.798E+00,,    0.255
C,SB-124    ,NO ,   -3.693E+00,    3.808E+00,    5.166E+00,,   -0.715
C,SB-125    ,NO ,   -3.405E+00,    8.063E+00,    1.347E+01,,   -0.253
C,TE-129M   ,NO ,    9.200E+00,    3.850E+01,    6.619E+01,,    0.139
C,I-131     ,NO ,    5.664E+00,    6.270E+00,    1.107E+01,,    0.512
C,BA-133    ,NO ,    4.698E+00,    4.757E+00,    7.243E+00,,    0.649
C,CS-134    ,NO ,    3.034E+00,    3.919E+00,    5.983E+00,,    0.507
C,CS-136    ,NO ,    1.835E+00,    4.134E+00,    7.390E+00,,    0.248
C,CS-137    ,NO ,   -1.107E+00,    2.931E+00,    4.988E+00,,   -0.222
C,CE-139    ,NO ,   -1.197E+00,    3.259E+00,    5.401E+00,,   -0.222
C,BA-140    ,NO ,   -3.173E+00,    1.489E+01,    2.507E+01,,   -0.127
C,LA-140    ,NO ,   -1.990E+00,    4.846E+00,    8.386E+00,,   -0.237
C,CE-141    ,NO ,   -4.907E-01,    7.682E+00,    1.090E+01,,   -0.045
C,CE-144    ,NO ,   -2.248E+01,    2.926E+01,    4.060E+01,,   -0.554
C,EU-152    ,NO ,   -1.713E+01,    1.147E+01,    1.515E+01,,   -1.131
C,EU-154    ,NO ,    5.478E+00,    6.734E+00,    1.153E+01,,    0.475
C,RA-226    ,NO ,    4.668E+01,    7.872E+01,    1.363E+02,,    0.343
C,AC-228    ,NO ,    5.960E-01,    1.024E+01,    1.819E+01,,    0.033
C,TH-228    ,NO ,    2.991E+00,    5.710E+00,    9.712E+00,,    0.308
C,TH-232    ,NO ,    5.943E-01,    1.021E+01,    1.814E+01,,    0.033
C,U-235     ,NO ,    5.372E+00,    2.947E+01,    4.224E+01,,    0.127
C,U-238     ,NO ,    1.753E+02,    3.256E+02,    5.891E+02,,    0.298
C,AM-241    ,NO ,    2.767E+01,    1.905E+01,    2.831E+01,,    0.977

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Sec. Review: Analyst: LIMS: 

VAX/VMS Teledyne Brown Eng. Laboratory Gamma Report: 1-JUN-2006 14:31:07.08
 TBE04 P-40312B HpGe ***** Aquisition Date/Time: 1-JUN-2006 11:27:19.06

LIMS No., Customer Name, Client ID: L28777-6 WG DRESDEN

Sample ID : 04L28777-6 Sample Date: 23-MAY-2006 15:50:00.
 Sample Type : WG Geometry : 0435L090804
 Quantity : 3.53510E+00 L BKGFILE : 04BG050506MT
 Start Channel : 90 Energy Tol : 1.00000 Real Time : 0 03:03:38.31
 End Channel : 4090 Pk Srch Sens: 5.00000 Live time : 0 03:03:36.43
 MDA Constant : 0.00 Library Used: LIBD

| Pk | It | Energy | Area | Bkgnd | FWHM | Channel | %Eff | Cts/Sec | %Err | Fit |
|----|----|----------|------|-------|------|---------|----------|----------|-------|----------|
| 1 | 1 | 66.62* | 57 | 408 | 0.88 | 133.80 | 6.57E-01 | 5.13E-03 | 67.0 | 1.53E+00 |
| 2 | 1 | 140.16* | 68 | 288 | 1.65 | 280.90 | 1.82E+00 | 6.17E-03 | 49.7 | 2.40E+00 |
| 3 | 1 | 185.73* | 51 | 201 | 2.18 | 372.06 | 1.73E+00 | 4.64E-03 | 54.7 | 2.52E+00 |
| 4 | 1 | 198.95* | 50 | 296 | 1.44 | 398.50 | 1.68E+00 | 4.55E-03 | 72.2 | 2.72E+00 |
| 5 | 1 | 238.86* | 19 | 151 | 1.02 | 478.32 | 1.52E+00 | 1.70E-03 | 122.3 | 2.07E+00 |
| 6 | 1 | 295.16* | 35 | 131 | 1.45 | 590.95 | 1.32E+00 | 3.17E-03 | 61.2 | 1.45E+00 |
| 7 | 1 | 351.78* | 85 | 123 | 1.92 | 704.18 | 1.17E+00 | 7.68E-03 | 29.3 | 2.59E+00 |
| 8 | 1 | 582.94* | 54 | 42 | 3.70 | 1166.49 | 8.00E-01 | 4.86E-03 | 31.9 | 1.01E+00 |
| 9 | 1 | 596.56 | 20 | 82 | 0.83 | 1193.73 | 7.86E-01 | 1.79E-03 | 97.7 | 2.79E+00 |
| 10 | 1 | 609.34* | 99 | 42 | 1.88 | 1219.29 | 7.73E-01 | 9.01E-03 | 18.1 | 7.39E-01 |
| 11 | 1 | 661.29 | 37 | 65 | 2.56 | 1323.19 | 7.26E-01 | 3.39E-03 | 47.4 | 1.42E+00 |
| 12 | 1 | 911.13* | 14 | 22 | 1.88 | 1822.78 | 5.66E-01 | 1.26E-03 | 77.8 | 3.09E-01 |
| 13 | 1 | 934.17 | 27 | 36 | 4.06 | 1868.87 | 5.55E-01 | 2.44E-03 | 47.2 | 3.61E+00 |
| 14 | 1 | 1764.47* | 18 | 4 | 3.14 | 3528.83 | 3.43E-01 | 1.64E-03 | 41.7 | 1.92E+00 |

Flag: "*" = Peak area was modified by background subtraction

Nuclide Line Activity Report

Nuclide Type: fission

| Nuclide | Energy | Area | %Abn | %Eff | Uncorrected pCi/L | Decay Corr pCi/L | 2-Sigma %Error |
|---------|--------|------|--------|-----------|----------------------|---------------------|-------------------|
| CS-137 | 661.65 | 37 | 85.12* | 7.258E-01 | 4.199E+00 | 4.201E+00 | 94.85 |

Nuclide Type: natural

| Nuclide | Energy | Area | %Abn | %Eff | Uncorrected pCi/L | Decay Corr pCi/L | 2-Sigma %Error |
|---------|--------|-------|--------|-----------|----------------------|---------------------|-------------------|
| RA-226 | 186.21 | 51 | 3.28* | 1.727E+00 | 6.268E+01 | 6.268E+01 | 109.47 |
| AC-228 | 835.50 | ----- | 1.75 | 6.054E-01 | ----- | Line Not Found | ----- |
| | 911.07 | 14 | 27.70* | 5.657E-01 | 6.137E+00 | 6.155E+00 | 155.63 |
| TH-228 | 238.63 | 19 | 44.60* | 1.519E+00 | 1.914E+00 | 1.931E+00 | 244.67 |
| | 240.98 | ----- | 3.95 | 1.511E+00 | ----- | Line Not Found | ----- |
| TH-232 | 583.14 | 54 | 30.25 | 7.995E-01 | 1.537E+01 | 1.537E+01 | 63.85 |
| | 911.07 | 14 | 27.70* | 5.657E-01 | 6.137E+00 | 6.137E+00 | 155.63 |
| | 969.11 | ----- | 16.60 | 5.389E-01 | ----- | Line Not Found | ----- |
| U-235 | 143.76 | ----- | 10.50* | 1.822E+00 | ----- | Line Not Found | ----- |
| | 163.35 | ----- | 4.70 | 1.796E+00 | ----- | Line Not Found | ----- |

| | | | | | | |
|--------|-------|-------|-----------|-----------|----------------|--------|
| 185.71 | 51 | 54.00 | 1.727E+00 | 3.807E+00 | 3.807E+00 | 109.47 |
| 205.31 | ----- | 4.70 | 1.652E+00 | ----- | Line Not Found | ----- |

Flag: "*" = Keyline

Summary of Nuclide Activity
Sample ID : 04L28777-6

Acquisition date : 1-JUN-2006 11:27:19

| | | |
|---|----|--------|
| Total number of lines in spectrum | 14 | |
| Number of unidentified lines | 9 | |
| Number of lines tentatively identified by NID | 5 | 35.71% |

Nuclide Type : fission

| Nuclide | Hlife | Decay | Uncorrected pCi/L | Decay Corr pCi/L | Decay Corr 2-Sigma Error | 2-Sigma %Error | Flags |
|------------------|--------|-------|----------------------|---------------------|-----------------------------|-------------------|-------|
| CS-137 | 30.17Y | 1.00 | 4.199E+00 | 4.201E+00 | 3.985E+00 | 94.85 | |
| Total Activity : | | | 4.199E+00 | 4.201E+00 | | | |

Nuclide Type : natural

| Nuclide | Hlife | Decay | Uncorrected pCi/L | Decay Corr pCi/L | Decay Corr 2-Sigma Error | 2-Sigma %Error | Flags |
|------------------|-----------|-------|----------------------|---------------------|-----------------------------|-------------------|-------|
| RA-226 | 1600.00Y | 1.00 | 6.268E+01 | 6.268E+01 | 6.861E+01 | 109.47 | |
| AC-228 | 5.75Y | 1.00 | 6.137E+00 | 6.155E+00 | 9.578E+00 | 155.63 | |
| TH-228 | 1.91Y | 1.01 | 1.914E+00 | 1.931E+00 | 4.724E+00 | 244.67 | |
| TH-232 | 1.41E+10Y | 1.00 | 6.137E+00 | 6.137E+00 | 9.550E+00 | 155.63 | |
| U-235 | 7.04E+08Y | 1.00 | 3.807E+00 | 3.807E+00 | 4.167E+00 | 109.47 | K |
| Total Activity : | | | 8.067E+01 | 8.071E+01 | | | |

Grand Total Activity : 8.487E+01 8.491E+01

Flags: "K" = Keyline not found
"E" = Manually edited

"M" = Manually accepted
"A" = Nuclide specific abn. limit

Unidentified Energy Lines
Sample ID : 04L28777-6

Acquisition date : 1-JUN-2006 11:27:19

| It | Energy | Area | Bkgnd | FWHM | Channel | Left | Pw | Cts/Sec | %Err | %Eff | Flags |
|----|---------|------|-------|------|---------|------|----|----------|------|----------|-------|
| 1 | 66.62 | 57 | 408 | 0.88 | 133.80 | 128 | 9 | 5.13E-03 | **** | 6.57E-01 | |
| 1 | 140.16 | 68 | 288 | 1.65 | 280.90 | 277 | 10 | 6.17E-03 | 99.3 | 1.82E+00 | |
| 1 | 198.95 | 50 | 296 | 1.44 | 398.50 | 392 | 12 | 4.55E-03 | **** | 1.68E+00 | |
| 1 | 295.16 | 35 | 131 | 1.45 | 590.95 | 587 | 8 | 3.17E-03 | **** | 1.32E+00 | |
| 1 | 351.78 | 85 | 123 | 1.92 | 704.18 | 700 | 11 | 7.68E-03 | 58.7 | 1.17E+00 | |
| 1 | 596.56 | 20 | 82 | 0.83 | 1193.73 | 1188 | 12 | 1.79E-03 | **** | 7.86E-01 | |
| 1 | 609.34 | 99 | 42 | 1.88 | 1219.29 | 1213 | 12 | 9.01E-03 | 36.1 | 7.73E-01 | |
| 1 | 934.17 | 27 | 36 | 4.06 | 1868.87 | 1863 | 12 | 2.44E-03 | 94.5 | 5.55E-01 | |
| 1 | 1764.47 | 18 | 4 | 3.14 | 3528.83 | 3520 | 15 | 1.64E-03 | 83.4 | 3.43E-01 | |

Flags: "T" = Tentatively associated

Summary of Nuclide Activity

| | | |
|---|----|--------|
| Total number of lines in spectrum | 14 | |
| Number of unidentified lines | 9 | |
| Number of lines tentatively identified by NID | 5 | 35.71% |

Nuclide Type : fission

| Nuclide | Hlife | Decay | Wtd Mean Uncorrected pCi/L | Wtd Mean Decay Corr pCi/L | Decay Corr 2-Sigma Error | 2-Sigma %Error | Flags |
|------------------|--------|-------|----------------------------------|---------------------------------|-----------------------------|-------------------|-------|
| CS-137 | 30.17Y | 1.00 | 4.199E+00 | 4.201E+00 | 3.985E+00 | 94.85 | |
| Total Activity : | | | 4.199E+00 | 4.201E+00 | | | |

Nuclide Type : natural

| Nuclide | Hlife | Decay | Wtd Mean Uncorrected pCi/L | Wtd Mean Decay Corr pCi/L | Decay Corr 2-Sigma Error | 2-Sigma %Error | Flags |
|------------------|-----------|-------|----------------------------------|---------------------------------|-----------------------------|-------------------|-------|
| RA-226 | 1600.00Y | 1.00 | 6.268E+01 | 6.268E+01 | 6.861E+01 | 109.47 | |
| TH-228 | 1.91Y | 1.01 | 1.914E+00 | 1.931E+00 | 4.724E+00 | 244.67 | |
| TH-232 | 1.41E+10Y | 1.00 | 1.063E+01 | 1.063E+01 | 0.685E+01 | 64.40 | |
| Total Activity : | | | 7.522E+01 | 7.524E+01 | | | |

Grand Total Activity : 7.942E+01 7.944E+01

Flags: "K" = Keyline not found "M" = Manually accepted
"E" = Manually edited "A" = Nuclide specific abn. limit

Interference Report

| Interfering | | Interfered | |
|-------------|--------|------------|--------|
| Nuclide | Line | Nuclide | Line |
| TH-232 | 911.07 | AC-228 | 911.07 |

Combined Activity-MDA Report

---- Identified Nuclides ----

| Nuclide | Activity (pCi/L) | Act error | MDA (pCi/L) | MDA error | Act/MDA |
|---------|---------------------|-----------|----------------|-----------|---------|
| CS-137 | 4.201E+00 | 3.985E+00 | 5.056E+00 | 0.000E+00 | 0.831 |
| RA-226 | 6.268E+01 | 6.861E+01 | 1.141E+02 | 0.000E+00 | 0.549 |
| TH-228 | 1.931E+00 | 4.724E+00 | 8.361E+00 | 0.000E+00 | 0.231 |
| TH-232 | 1.063E+01 | 6.845E+00 | 1.823E+01 | 0.000E+00 | 0.583 |

---- Non-Identified Nuclides ----

| Nuclide | Key-Line Activity (pCi/L) | K.L. Ided | Act error | MDA (pCi/L) | MDA error | Act/MDA |
|---------|---------------------------------|--------------|-----------|---------------------|-----------|---------|
| BE-7 | -1.036E+01 | | 2.510E+01 | 3.990E+01 | 0.000E+00 | -0.260 |
| NA-24 | -5.632E-02 | | 3.095E-02 | Half-Life too short | | |
| K-40 | 5.639E+00 | | 3.922E+01 | 7.493E+01 | 0.000E+00 | 0.075 |
| CR-51 | -1.850E+01 | | 3.135E+01 | 4.956E+01 | 0.000E+00 | -0.373 |
| MN-54 | 1.974E+00 | | 2.988E+00 | 5.185E+00 | 0.000E+00 | 0.381 |
| CO-57 | 9.574E-01 | | 2.662E+00 | 4.471E+00 | 0.000E+00 | 0.214 |
| CO-58 | -2.078E-01 | | 2.994E+00 | 4.937E+00 | 0.000E+00 | -0.042 |
| FE-59 | 5.079E+00 | | 6.612E+00 | 1.164E+01 | 0.000E+00 | 0.437 |
| CO-60 | 3.001E+00 | | 3.441E+00 | 6.334E+00 | 0.000E+00 | 0.474 |
| ZN-65 | 4.220E+00 | | 7.028E+00 | 1.217E+01 | 0.000E+00 | 0.347 |
| SE-75 | -7.470E-01 | | 3.944E+00 | 6.444E+00 | 0.000E+00 | -0.116 |
| SR-85 | 1.915E+01 | | 3.972E+00 | 7.757E+00 | 0.000E+00 | 2.468 |
| Y-88 | -2.558E+00 | | 3.731E+00 | 5.633E+00 | 0.000E+00 | -0.454 |
| NB-94 | 6.589E-01 | | 2.711E+00 | 4.510E+00 | 0.000E+00 | 0.146 |
| NB-95 | 3.186E+00 | | 3.195E+00 | 5.571E+00 | 0.000E+00 | 0.572 |
| ZR-95 | -5.487E+00 | | 5.542E+00 | 8.255E+00 | 0.000E+00 | -0.665 |
| MO-99 | -6.459E+00 | | 2.061E+02 | 3.344E+02 | 0.000E+00 | -0.019 |
| RU-103 | 3.003E-01 | | 3.551E+00 | 5.815E+00 | 0.000E+00 | 0.052 |
| RU-106 | 1.686E+01 | | 2.702E+01 | 4.646E+01 | 0.000E+00 | 0.363 |
| AG-110m | 2.804E+00 | | 3.580E+00 | 5.358E+00 | 0.000E+00 | 0.523 |
| SN-113 | 3.258E+00 | | 3.934E+00 | 6.795E+00 | 0.000E+00 | 0.479 |
| SB-124 | 3.790E+00 | | 5.743E+00 | 5.063E+00 | 0.000E+00 | 0.749 |
| SB-125 | 2.538E+00 | | 8.201E+00 | 1.375E+01 | 0.000E+00 | 0.185 |
| TE-129M | 1.408E+01 | | 3.914E+01 | 6.548E+01 | 0.000E+00 | 0.215 |
| I-131 | 3.699E-01 | | 6.000E+00 | 1.003E+01 | 0.000E+00 | 0.037 |
| BA-133 | 2.673E+00 | | 4.729E+00 | 6.990E+00 | 0.000E+00 | 0.382 |
| CS-134 | 6.539E+00 | | 5.367E+00 | 5.253E+00 | 0.000E+00 | 1.245 |
| CS-136 | 1.899E+00 | | 4.191E+00 | 7.202E+00 | 0.000E+00 | 0.264 |
| CE-139 | 1.304E+00 | | 2.721E+00 | 4.520E+00 | 0.000E+00 | 0.288 |
| BA-140 | 2.639E+00 | | 1.571E+01 | 2.575E+01 | 0.000E+00 | 0.102 |
| LA-140 | 1.807E+00 | | 6.275E+00 | 1.057E+01 | 0.000E+00 | 0.171 |
| CE-141 | -3.469E-01 | | 6.244E+00 | 8.784E+00 | 0.000E+00 | -0.039 |
| CE-144 | -2.134E+01 | | 2.317E+01 | 3.277E+01 | 0.000E+00 | -0.651 |
| EU-152 | -1.487E+01 | | 1.131E+01 | 1.469E+01 | 0.000E+00 | -1.012 |
| EU-154 | -1.365E+00 | | 5.500E+00 | 9.045E+00 | 0.000E+00 | -0.151 |
| AC-228 | 6.155E+00 | | 9.578E+00 | 1.959E+01 | 0.000E+00 | 0.314 |
| U-235 | 3.398E+00 | | 2.375E+01 | 3.379E+01 | 0.000E+00 | 0.101 |
| U-238 | 1.023E+02 | | 3.349E+02 | 5.602E+02 | 0.000E+00 | 0.183 |
| AM-241 | -2.100E+01 | | 2.678E+01 | 3.835E+01 | 0.000E+00 | -0.548 |

A,04L28777-6 ,06/01/2006 14:31,05/23/2006 15:50, 3.535E+00,L28777-6 WG DR
 B,04L28777-6 ,LIBD ,03/14/2005 09:04,0435L090804
 C,CS-137 ,YES, 4.201E+00, 3.985E+00, 5.056E+00,, 0.831
 C,RA-226 ,YES, 6.268E+01, 6.861E+01, 1.141E+02,, 0.549
 C,TH-228 ,YES, 1.931E+00, 4.724E+00, 8.361E+00,, 0.231
 C,TH-232 ,YES, 1.063E+01, 6.845E+00, 1.823E+01,, 0.583
 C,BE-7 ,NO , -1.036E+01, 2.510E+01, 3.990E+01,, -0.260
 C,K-40 ,NO , 5.639E+00, 3.922E+01, 7.493E+01,, 0.075
 C,CR-51 ,NO , -1.850E+01, 3.135E+01, 4.956E+01,, -0.373
 C,MN-54 ,NO , 1.974E+00, 2.988E+00, 5.185E+00,, 0.381
 C,CO-57 ,NO , 9.574E-01, 2.662E+00, 4.471E+00,, 0.214
 C,CO-58 ,NO , -2.078E-01, 2.994E+00, 4.937E+00,, -0.042
 C,FE-59 ,NO , 5.079E+00, 6.612E+00, 1.164E+01,, 0.437
 C,CO-60 ,NO , 3.001E+00, 3.441E+00, 6.334E+00,, 0.474
 C,ZN-65 ,NO , 4.220E+00, 7.028E+00, 1.217E+01,, 0.347
 C,SE-75 ,NO , -7.470E-01, 3.944E+00, 6.444E+00,, -0.116
 C,SR-85 ,NO , 1.915E+01, 3.972E+00, 7.757E+00,, 2.468
 C,Y-88 ,NO , -2.558E+00, 3.731E+00, 5.633E+00,, -0.454
 C,NB-94 ,NO , 6.589E-01, 2.711E+00, 4.510E+00,, 0.146
 C,NB-95 ,NO , 3.186E+00, 3.195E+00, 5.571E+00,, 0.572
 C,ZR-95 ,NO , -5.487E+00, 5.542E+00, 8.255E+00,, -0.665
 C,MO-99 ,NO , -6.459E+00, 2.061E+02, 3.344E+02,, -0.019
 C,RU-103 ,NO , 3.003E-01, 3.551E+00, 5.815E+00,, 0.052
 C,RU-106 ,NO , 1.686E+01, 2.702E+01, 4.646E+01,, 0.363
 C,AG-110m ,NO , 2.804E+00, 3.580E+00, 5.358E+00,, 0.523
 C,SN-113 ,NO , 3.258E+00, 3.934E+00, 6.795E+00,, 0.479
 C,SB-124 ,NO , 3.790E+00, 5.743E+00, 5.063E+00,, 0.749
 C,SB-125 ,NO , 2.538E+00, 8.201E+00, 1.375E+01,, 0.185
 C,TE-129M ,NO , 1.408E+01, 3.914E+01, 6.548E+01,, 0.215
 C,I-131 ,NO , 3.699E-01, 6.000E+00, 1.003E+01,, 0.037
 C,BA-133 ,NO , 2.673E+00, 4.729E+00, 6.990E+00,, 0.382
 C,CS-134 ,NO , 6.539E+00, 5.367E+00, 5.253E+00,, 1.245
 C,CS-136 ,NO , 1.899E+00, 4.191E+00, 7.202E+00,, 0.264
 C,CE-139 ,NO , 1.304E+00, 2.721E+00, 4.520E+00,, 0.288
 C,BA-140 ,NO , 2.639E+00, 1.571E+01, 2.575E+01,, 0.102
 C,LA-140 ,NO , 1.807E+00, 6.275E+00, 1.057E+01,, 0.171
 C,CE-141 ,NO , -3.469E-01, 6.244E+00, 8.784E+00,, -0.039
 C,CE-144 ,NO , -2.134E+01, 2.317E+01, 3.277E+01,, -0.651
 C,EU-152 ,NO , -1.487E+01, 1.131E+01, 1.469E+01,, -1.012
 C,EU-154 ,NO , -1.365E+00, 5.500E+00, 9.045E+00,, -0.151
 C,AC-228 ,NO , 6.155E+00, 9.578E+00, 1.959E+01,, 0.314
 C,U-235 ,NO , 3.398E+00, 2.375E+01, 3.379E+01,, 0.101
 C,U-238 ,NO , 1.023E+02, 3.349E+02, 5.602E+02,, 0.183
 C,AM-241 ,NO , -2.100E+01, 2.678E+01, 3.835E+01,, -0.548

Sec. Review: Analyst: LIMS: V

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VAX/VMS Teledyne Brown Eng. Laboratory Gamma Report: 1-JUN-2006 16:15:19.56
 TBE13 P-10727B HpGe ***** Aquisition Date/Time: 1-JUN-2006 13:33:12.89

LIMS No., Customer Name, Client ID: L28777-7 WG EXELON/DRES

| | | | |
|---------------|-----------------|---------------|-----------------------|
| Sample ID | : 13L28777-7 | Smple Date: | 24-MAY-2006 12:25:00. |
| Sample Type | : WG | Geometry | : 1335L090904 |
| Quantity | : 3.59090E+00 L | BKGFILE | : 13BG050506MT |
| Start Channel | : 25 | Energy Tol | : 1.50000 |
| End Channel | : 4090 | Pk Srch Sens: | 5.00000 |
| MDA Constant | : 0.00 | Library Used: | LIBD |
| | | Real Time | : 0 02:41:51.55 |
| | | Live time | : 0 02:41:48.79 |

| Pk | It | Energy | Area | Bkgnd | FWHM | Channel | %Eff | Cts/Sec | %Err | Fit |
|----|----|----------|------|-------|------|---------|----------|----------|-------|----------|
| 1 | 1 | 92.70* | 12 | 375 | 1.30 | 185.39 | 1.52E+00 | 1.26E-03 | 323.6 | 1.68E+00 |
| 2 | 1 | 139.88* | 86 | 262 | 1.26 | 279.71 | 2.02E+00 | 8.87E-03 | 35.2 | 1.47E+00 |
| 3 | 1 | 185.55* | 0 | 305 | 1.31 | 371.01 | 1.95E+00 | 4.49E-05 | ***** | 1.05E+00 |
| 4 | 1 | 198.20* | 67 | 215 | 1.35 | 396.29 | 1.90E+00 | 6.94E-03 | 41.1 | 1.31E+00 |
| 5 | 0 | 238.25* | 15 | 278 | 0.81 | 476.36 | 1.73E+00 | 1.57E-03 | 217.5 | |
| 6 | 1 | 295.28* | 32 | 163 | 1.17 | 590.39 | 1.52E+00 | 3.32E-03 | 80.7 | 3.04E+00 |
| 7 | 1 | 351.49* | 88 | 147 | 1.49 | 702.80 | 1.34E+00 | 9.04E-03 | 30.1 | 2.60E+00 |
| 8 | 1 | 583.57* | 24 | 112 | 2.50 | 1167.03 | 9.26E-01 | 2.50E-03 | 106.5 | 1.58E+00 |
| 9 | 1 | 609.63* | 79 | 107 | 2.01 | 1219.17 | 8.96E-01 | 8.09E-03 | 32.1 | 1.86E+00 |
| 10 | 1 | 1120.69* | 40 | 24 | 2.56 | 2242.24 | 5.69E-01 | 4.12E-03 | 34.6 | 6.00E-01 |
| 11 | 1 | 1461.17* | 29 | 33 | 2.49 | 2924.40 | 4.69E-01 | 3.02E-03 | 58.7 | 1.29E+00 |
| 12 | 1 | 1947.29 | 25 | 12 | 2.98 | 3899.14 | 3.86E-01 | 2.54E-03 | 29.4 | 1.04E+00 |

Flag: "*" = Peak area was modified by background subtraction

Nuclide Line Activity Report

Nuclide Type: natural

| Nuclide | Energy | Area | %Abn | %Eff | Uncorrected pCi/L | Decay Corr pCi/L | 2-Sigma %Error |
|---------|---------|-------|--------|-----------|----------------------|---------------------|-------------------|
| K-40 | 1460.81 | 29 | 10.67* | 4.688E-01 | 4.542E+01 | 4.542E+01 | 117.39 |
| RA-226 | 186.21 | 0 | 3.28* | 1.947E+00 | 5.297E-01 | 5.297E-01 | 16102.71 |
| TH-228 | 238.63 | 15 | 44.60* | 1.734E+00 | 1.524E+00 | 1.536E+00 | 435.04 |
| | 240.98 | ----- | 3.95 | 1.723E+00 | ----- | Line Not Found | ----- |
| U-235 | 143.76 | ----- | 10.50* | 2.023E+00 | ----- | Line Not Found | ----- |
| | 163.35 | ----- | 4.70 | 2.011E+00 | ----- | Line Not Found | ----- |
| | 185.71 | 0 | 54.00 | 1.947E+00 | 3.217E-02 | 3.217E-02 | 16102.71 |
| | 205.31 | ----- | 4.70 | 1.871E+00 | ----- | Line Not Found | ----- |

Flag: "*" = Keyline

Summary of Nuclide Activity
 Sample ID : 13L28777-7

Acquisition date : 1-JUN-2006 13:33:12

Total number of lines in spectrum 12
 Number of unidentified lines 8
 Number of lines tentatively identified by NID 4 33.33%

Nuclide Type : natural

| Nuclide | Hlife | Decay | Uncorrected pCi/L | Decay Corr pCi/L | Decay Corr 2-Sigma Error | 2-Sigma %Error | Flags |
|---------|-----------|-------|----------------------|---------------------|-----------------------------|-------------------|-------|
| K-40 | 1.28E+09Y | 1.00 | 4.542E+01 | 4.542E+01 | 5.332E+01 | 117.39 | |
| RA-226 | 1600.00Y | 1.00 | 5.297E-01 | 5.297E-01 | 853.0E-01 | 16102.71 | |
| TH-228 | 1.91Y | 1.01 | 1.524E+00 | 1.536E+00 | 6.682E+00 | 435.04 | |
| U-235 | 7.04E+08Y | 1.00 | 3.217E-02 | 3.217E-02 | 518.1E-02 | 16102.71 | K |
| | | | ----- | ----- | | | |
| | | | Total Activity : | 4.751E+01 | 4.752E+01 | | |

Grand Total Activity : 4.751E+01 4.752E+01

Flags: "K" = Keyline not found
 "E" = Manually edited

"M" = Manually accepted
 "A" = Nuclide specific abn. limit

Unidentified Energy Lines
Sample ID : 13L28777-7

Acquisition date : 1-JUN-2006 13:33:12

| It | Energy | Area | Bkgnd | FWHM | Channel | Left | Pw | Cts/Sec | %Err | %Eff | Flags |
|----|---------|------|-------|------|---------|------|----|----------|------|----------|-------|
| 1 | 92.70 | 12 | 375 | 1.30 | 185.39 | 181 | 10 | 1.26E-03 | **** | 1.52E+00 | |
| 1 | 139.88 | 86 | 262 | 1.26 | 279.71 | 276 | 8 | 8.87E-03 | 70.4 | 2.02E+00 | |
| 1 | 198.20 | 67 | 215 | 1.35 | 396.29 | 393 | 8 | 6.94E-03 | 82.2 | 1.90E+00 | |
| 1 | 295.28 | 32 | 163 | 1.17 | 590.39 | 587 | 10 | 3.32E-03 | **** | 1.52E+00 | |
| 1 | 351.49 | 88 | 147 | 1.49 | 702.80 | 699 | 11 | 9.04E-03 | 60.2 | 1.34E+00 | |
| 1 | 583.57 | 24 | 112 | 2.50 | 1167.03 | 1160 | 17 | 2.50E-03 | **** | 9.26E-01 | T |
| 1 | 609.63 | 79 | 107 | 2.01 | 1219.17 | 1213 | 14 | 8.09E-03 | 64.1 | 8.96E-01 | |
| 1 | 1120.69 | 40 | 24 | 2.56 | 2242.24 | 2235 | 16 | 4.12E-03 | 69.2 | 5.69E-01 | |
| 1 | 1947.29 | 25 | 12 | 2.98 | 3899.14 | 3895 | 10 | 2.54E-03 | 58.7 | 3.86E-01 | |

Flags: "T" = Tentatively associated

Summary of Nuclide Activity

Total number of lines in spectrum 12
Number of unidentified lines 8
Number of lines tentatively identified by NID 4 33.33%

Nuclide Type : natural

| Nuclide | Hlife | Decay | Wtd Mean Uncorrected pCi/L | Wtd Mean Decay Corr pCi/L | Decay Corr 2-Sigma Error | 2-Sigma %Error | Flags |
|------------------|-----------|-------|----------------------------------|---------------------------------|-----------------------------|-------------------|-------|
| K-40 | 1.28E+09Y | 1.00 | 4.542E+01 | 4.542E+01 | 5.332E+01 | 117.39 | |
| RA-226 | 1600.00Y | 1.00 | 5.297E-01 | 5.297E-01 | 853.0E-01 | 16102.71 | |
| TH-228 | 1.91Y | 1.01 | 1.524E+00 | 1.536E+00 | 6.682E+00 | 435.04 | |
| Total Activity : | | | 4.747E+01 | 4.749E+01 | | | |

Grand Total Activity : 4.747E+01 4.749E+01

Flags: "K" = Keyline not found "M" = Manually accepted
"E" = Manually edited "A" = Nuclide specific abn. limit

Interference Report

No interference correction performed

Combined Activity-MDA Report

---- Identified Nuclides ----

| Nuclide | Activity (pCi/L) | Act error | MDA (pCi/L) | MDA error | Act/MDA |
|---------|---------------------|-----------|----------------|-----------|---------|
| K-40 | 4.542E+01 | 5.332E+01 | 4.633E+01 | 0.000E+00 | 0.980 |
| RA-226 | 5.297E-01 | 8.530E+01 | 1.187E+02 | 0.000E+00 | 0.004 |
| TH-228 | 1.536E+00 | 6.682E+00 | 8.346E+00 | 0.000E+00 | 0.184 |

---- Non-Identified Nuclides ----

| Key-Line Activity | K.L. | Act error | MDA | MDA error | Act/MDA |
|----------------------|------|-----------|-----|-----------|---------|
|----------------------|------|-----------|-----|-----------|---------|

| Nuclide | (pCi/L) | Ided | (pCi/L) | | |
|---------|------------|-----------|---------------------|-----------|--------|
| BE-7 | 4.601E-01 | 2.736E+01 | 4.474E+01 | 0.000E+00 | 0.010 |
| NA-24 | -6.690E-03 | 1.183E-02 | Half-Life too short | | |
| CR-51 | -1.572E+01 | 3.103E+01 | 5.051E+01 | 0.000E+00 | -0.311 |
| MN-54 | 7.528E-01 | 3.245E+00 | 5.388E+00 | 0.000E+00 | 0.140 |
| CO-57 | -3.266E+00 | 3.060E+00 | 4.932E+00 | 0.000E+00 | -0.662 |
| CO-58 | -1.448E+00 | 3.186E+00 | 5.035E+00 | 0.000E+00 | -0.288 |
| FE-59 | 1.225E+00 | 6.579E+00 | 1.102E+01 | 0.000E+00 | 0.111 |
| CO-60 | -2.506E-02 | 3.112E+00 | 5.071E+00 | 0.000E+00 | -0.005 |
| ZN-65 | 8.359E+00 | 7.263E+00 | 1.157E+01 | 0.000E+00 | 0.723 |
| SE-75 | 1.635E-01 | 4.114E+00 | 6.681E+00 | 0.000E+00 | 0.024 |
| SR-85 | 1.551E+01 | 3.995E+00 | 7.523E+00 | 0.000E+00 | 2.062 |
| Y-88 | 1.653E+00 | 3.228E+00 | 5.618E+00 | 0.000E+00 | 0.294 |
| NB-94 | -6.695E-01 | 2.778E+00 | 4.507E+00 | 0.000E+00 | -0.149 |
| NB-95 | 1.150E+00 | 3.281E+00 | 5.515E+00 | 0.000E+00 | 0.209 |
| ZR-95 | -2.403E+00 | 6.204E+00 | 9.934E+00 | 0.000E+00 | -0.242 |
| MO-99 | 4.380E+01 | 1.826E+02 | 3.051E+02 | 0.000E+00 | 0.144 |
| RU-103 | 7.526E-01 | 3.507E+00 | 5.788E+00 | 0.000E+00 | 0.130 |
| RU-106 | 4.888E+00 | 2.828E+01 | 4.681E+01 | 0.000E+00 | 0.104 |
| AG-110m | -5.989E-01 | 2.887E+00 | 4.713E+00 | 0.000E+00 | -0.127 |
| SN-113 | 6.407E-01 | 4.051E+00 | 6.731E+00 | 0.000E+00 | 0.095 |
| SB-124 | -4.193E+00 | 4.048E+00 | 5.203E+00 | 0.000E+00 | -0.806 |
| SB-125 | -4.068E-01 | 9.155E+00 | 1.500E+01 | 0.000E+00 | -0.027 |
| TE-129M | 2.690E+01 | 3.954E+01 | 6.710E+01 | 0.000E+00 | 0.401 |
| I-131 | 1.738E+00 | 6.187E+00 | 1.037E+01 | 0.000E+00 | 0.168 |
| BA-133 | 2.274E+00 | 5.076E+00 | 7.355E+00 | 0.000E+00 | 0.309 |
| CS-134 | 2.723E+00 | 3.754E+00 | 5.596E+00 | 0.000E+00 | 0.487 |
| CS-136 | -3.207E+00 | 4.794E+00 | 7.463E+00 | 0.000E+00 | -0.430 |
| CS-137 | 1.459E+00 | 3.172E+00 | 5.408E+00 | 0.000E+00 | 0.270 |
| CE-139 | -2.647E+00 | 3.065E+00 | 4.913E+00 | 0.000E+00 | -0.539 |
| BA-140 | -2.984E+00 | 1.642E+01 | 2.636E+01 | 0.000E+00 | -0.113 |
| LA-140 | -4.153E+00 | 5.336E+00 | 8.053E+00 | 0.000E+00 | -0.516 |
| CE-141 | 5.411E+00 | 6.763E+00 | 9.929E+00 | 0.000E+00 | 0.545 |
| CE-144 | -1.133E+01 | 2.810E+01 | 3.921E+01 | 0.000E+00 | -0.289 |
| EU-152 | -3.569E+00 | 1.126E+01 | 1.609E+01 | 0.000E+00 | -0.222 |
| EU-154 | -7.637E+00 | 6.286E+00 | 1.008E+01 | 0.000E+00 | -0.758 |
| AC-228 | -3.257E+00 | 1.202E+01 | 2.004E+01 | 0.000E+00 | -0.162 |
| TH-232 | -3.248E+00 | 1.199E+01 | 1.999E+01 | 0.000E+00 | -0.162 |
| U-235 | 1.972E+00 | 2.682E+01 | 3.835E+01 | 0.000E+00 | 0.051 |
| U-238 | 2.333E+02 | 3.379E+02 | 5.935E+02 | 0.000E+00 | 0.393 |
| AM-241 | -6.314E+01 | 2.954E+01 | 4.500E+01 | 0.000E+00 | -1.403 |

A,13L28777-7 ,06/01/2006 16:15,05/24/2006 12:25, 3.591E+00,L28777-7 WG EX
 B,13L28777-7 ,LIBD ,06/01/2006 10:13,1335L090904
 C,K-40 ,YES, 4.542E+01, 5.332E+01, 4.633E+01,, 0.980
 C,RA-226 ,YES, 5.297E-01, 8.530E+01, 1.187E+02,, 0.004
 C,TH-228 ,YES, 1.536E+00, 6.682E+00, 8.346E+00,, 0.184
 C,BE-7 ,NO , 4.601E-01, 2.736E+01, 4.474E+01,, 0.010
 C,CR-51 ,NO , -1.572E+01, 3.103E+01, 5.051E+01,, -0.311
 C,MN-54 ,NO , 7.528E-01, 3.245E+00, 5.388E+00,, 0.140
 C,CO-57 ,NO , -3.266E+00, 3.060E+00, 4.932E+00,, -0.662
 C,CO-58 ,NO , -1.448E+00, 3.186E+00, 5.035E+00,, -0.288
 C,FE-59 ,NO , 1.225E+00, 6.579E+00, 1.102E+01,, 0.111
 C,CO-60 ,NO , -2.506E-02, 3.112E+00, 5.071E+00,, -0.005
 C,ZN-65 ,NO , 8.359E+00, 7.263E+00, 1.157E+01,, 0.723
 C,SE-75 ,NO , 1.635E-01, 4.114E+00, 6.681E+00,, 0.024
 C,SR-85 ,NO , 1.551E+01, 3.995E+00, 7.523E+00,, 2.062
 C,Y-88 ,NO , 1.653E+00, 3.228E+00, 5.618E+00,, 0.294
 C,NB-94 ,NO , -6.695E-01, 2.778E+00, 4.507E+00,, -0.149
 C,NB-95 ,NO , 1.150E+00, 3.281E+00, 5.515E+00,, 0.209
 C,ZR-95 ,NO , -2.403E+00, 6.204E+00, 9.934E+00,, -0.242
 C,MO-99 ,NO , 4.380E+01, 1.826E+02, 3.051E+02,, 0.144
 C,RU-103 ,NO , 7.526E-01, 3.507E+00, 5.788E+00,, 0.130
 C,RU-106 ,NO , 4.888E+00, 2.828E+01, 4.681E+01,, 0.104
 C,AG-110m ,NO , -5.989E-01, 2.887E+00, 4.713E+00,, -0.127
 C,SN-113 ,NO , 6.407E-01, 4.051E+00, 6.731E+00,, 0.095
 C,SB-124 ,NO , -4.193E+00, 4.048E+00, 5.203E+00,, -0.806
 C,SB-125 ,NO , -4.068E-01, 9.155E+00, 1.500E+01,, -0.027
 C,TE-129M ,NO , 2.690E+01, 3.954E+01, 6.710E+01,, 0.401
 C,I-131 ,NO , 1.738E+00, 6.187E+00, 1.037E+01,, 0.168
 C,BA-133 ,NO , 2.274E+00, 5.076E+00, 7.355E+00,, 0.309
 C,CS-134 ,NO , 2.723E+00, 3.754E+00, 5.596E+00,, 0.487
 C,CS-136 ,NO , -3.207E+00, 4.794E+00, 7.463E+00,, -0.430
 C,CS-137 ,NO , 1.459E+00, 3.172E+00, 5.408E+00,, 0.270
 C,CE-139 ,NO , -2.647E+00, 3.065E+00, 4.913E+00,, -0.539
 C,BA-140 ,NO , -2.984E+00, 1.642E+01, 2.636E+01,, -0.113
 C,LA-140 ,NO , -4.153E+00, 5.336E+00, 8.053E+00,, -0.516
 C,CE-141 ,NO , 5.411E+00, 6.763E+00, 9.929E+00,, 0.545
 C,CE-144 ,NO , -1.133E+01, 2.810E+01, 3.921E+01,, -0.289
 C,EU-152 ,NO , -3.569E+00, 1.126E+01, 1.609E+01,, -0.222
 C,EU-154 ,NO , -7.637E+00, 6.286E+00, 1.008E+01,, -0.758
 C,AC-228 ,NO , -3.257E+00, 1.202E+01, 2.004E+01,, -0.162
 C,TH-232 ,NO , -3.248E+00, 1.199E+01, 1.999E+01,, -0.162
 C,U-235 ,NO , 1.972E+00, 2.682E+01, 3.835E+01,, 0.051
 C,U-238 ,NO , 2.333E+02, 3.379E+02, 5.935E+02,, 0.393
 C,AM-241 ,NO , -6.314E+01, 2.954E+01, 4.500E+01,, -1.403

Sec. Review: Analyst: LIMS: ✓

VAX/VMS Teledyne Brown Eng. Laboratory Gamma Report: 1-JUN-2006 17:26:00.29
 TBE23 03017322 HpGe ***** Aquisition Date/Time: 1-JUN-2006 14:28:31.94

LIMS No., Customer Name, Client ID: WG L28777-8 DRESDEN

Sample ID : 23L28777-8
 Sample Type : WG
 Quantity : 3.55010E+00 L
 Start Channel : 50 Energy Tol : 1.50000
 End Channel : 4090 Pk Srch Sens: 5.00000
 MDA Constant : 0.00 Library Used: LIBD

Smple Date: 24-MAY-2006 14:15:00.
 Geometry : 2335L090704
 BKGFILE : 23BG050506MT
 Real Time : 0 02:57:15.07
 Live time : 0 02:57:07.59

| Pk | It | Energy | Area | Bkgnd | FWHM | Channel | %Eff | Cts/Sec | %Err | Fit |
|----|----|----------|------|-------|------|---------|----------|----------|-------|-----|
| 1 | 0 | 63.65* | 26 | 450 | 0.80 | 127.59 | 9.53E-01 | 2.40E-03 | 156.5 | |
| 2 | 0 | 92.59* | 56 | 479 | 1.05 | 185.41 | 1.69E+00 | 5.29E-03 | 76.0 | |
| 3 | 0 | 139.38* | 69 | 354 | 1.11 | 278.93 | 2.05E+00 | 6.50E-03 | 48.0 | |
| 4 | 0 | 186.10* | 29 | 435 | 1.09 | 372.30 | 1.95E+00 | 2.71E-03 | 152.4 | |
| 5 | 0 | 351.76* | 46 | 96 | 1.19 | 703.43 | 1.32E+00 | 4.34E-03 | 41.6 | |
| 6 | 0 | 596.11 | 45 | 67 | 1.43 | 1191.92 | 8.73E-01 | 4.27E-03 | 37.0 | |
| 7 | 0 | 609.02* | 63 | 47 | 1.36 | 1217.71 | 8.59E-01 | 5.90E-03 | 26.6 | |
| 8 | 0 | 910.29* | 46 | 35 | 1.52 | 1820.11 | 6.39E-01 | 4.33E-03 | 34.4 | |
| 9 | 0 | 1461.17* | 23 | 26 | 1.38 | 2921.97 | 4.59E-01 | 2.17E-03 | 70.0 | |

Flag: "*" = Peak area was modified by background subtraction

Nuclide Line Activity Report

Nuclide Type: natural

| Nuclide | Energy | Area | %Abn | %Eff | Uncorrected pCi/L | Decay Corr pCi/L | 2-Sigma %Error |
|---------|---------|-------|--------|-----------|-------------------|------------------|----------------|
| K-40 | 1460.81 | 23 | 10.67* | 4.594E-01 | 3.374E+01 | 3.374E+01 | 140.09 |
| RA-226 | 186.21 | 29 | 3.28* | 1.946E+00 | 3.234E+01 | 3.234E+01 | 304.71 |
| AC-228 | 835.50 | ----- | 1.75 | 6.790E-01 | ----- | Line Not Found | ----- |
| | 911.07 | 46 | 27.70* | 6.387E-01 | 1.861E+01 | 1.866E+01 | 68.85 |

Flag: "*" = Keyline

Summary of Nuclide Activity
Sample ID : 23L28777-8

Acquisition date : 1-JUN-2006 14:28:31

| | | |
|---|---|--------|
| Total number of lines in spectrum | 9 | |
| Number of unidentified lines | 6 | |
| Number of lines tentatively identified by NID | 3 | 33.33% |

Nuclide Type : natural

| Nuclide | Hlife | Decay | Uncorrected pCi/L | Decay Corr pCi/L | Decay Corr 2-Sigma Error | 2-Sigma %Error | Flags |
|------------------|-----------|-------|----------------------|---------------------|-----------------------------|-------------------|-------|
| K-40 | 1.28E+09Y | 1.00 | 3.374E+01 | 3.374E+01 | 4.727E+01 | 140.09 | |
| RA-226 | 1600.00Y | 1.00 | 3.234E+01 | 3.234E+01 | 9.855E+01 | 304.71 | |
| AC-228 | 5.75Y | 1.00 | 1.861E+01 | 1.866E+01 | 1.285E+01 | 68.85 | |
| Total Activity : | | | 8.470E+01 | 8.475E+01 | | | |

Grand Total Activity : 8.470E+01 8.475E+01

Flags: "K" = Keyline not found
"E" = Manually edited

"M" = Manually accepted
"A" = Nuclide specific abn. limit

Unidentified Energy Lines
Sample ID : 23L28777-8

Acquisition date : 1-JUN-2006 14:28:31

| It | Energy | Area | Bkgnd | FWHM | Channel | Left | Pw | Cts/Sec | %Err | %Eff | Flags |
|----|--------|------|-------|------|---------|------|----|----------|------|----------|-------|
| 0 | 63.65 | 26 | 450 | 0.80 | 127.59 | 123 | 9 | 2.40E-03 | **** | 9.53E-01 | |
| 0 | 92.59 | 56 | 479 | 1.05 | 185.41 | 181 | 9 | 5.29E-03 | **** | 1.69E+00 | |
| 0 | 139.38 | 69 | 354 | 1.11 | 278.93 | 276 | 7 | 6.50E-03 | 96.0 | 2.05E+00 | |
| 0 | 351.76 | 46 | 96 | 1.19 | 703.43 | 700 | 7 | 4.34E-03 | 83.2 | 1.32E+00 | |
| 0 | 596.11 | 45 | 67 | 1.43 | 1191.92 | 1187 | 10 | 4.27E-03 | 73.9 | 8.73E-01 | |
| 0 | 609.02 | 63 | 47 | 1.36 | 1217.71 | 1213 | 9 | 5.90E-03 | 53.2 | 8.59E-01 | |

Flags: "T" = Tentatively associated

Summary of Nuclide Activity

| | | |
|---|---|--------|
| Total number of lines in spectrum | 9 | |
| Number of unidentified lines | 6 | |
| Number of lines tentatively identified by NID | 3 | 33.33% |

Nuclide Type : natural

| Nuclide | Hlife | Decay | Wtd Mean Uncorrected pCi/L | Wtd Mean Decay Corr pCi/L | Decay Corr 2-Sigma Error | 2-Sigma %Error | Flags |
|------------------|-----------|-------|----------------------------------|---------------------------------|-----------------------------|-------------------|-------|
| K-40 | 1.28E+09Y | 1.00 | 3.374E+01 | 3.374E+01 | 4.727E+01 | 140.09 | |
| RA-226 | 1600.00Y | 1.00 | 3.234E+01 | 3.234E+01 | 9.855E+01 | 304.71 | |
| AC-228 | 5.75Y | 1.00 | 1.861E+01 | 1.866E+01 | 1.285E+01 | 68.85 | |
| Total Activity : | | | 8.470E+01 | 8.475E+01 | | | |

Grand Total Activity : 8.470E+01 8.475E+01

Flags: "K" = Keyline not found
"E" = Manually edited

"M" = Manually accepted
"A" = Nuclide specific abn. limit

Interference Report

No interference correction performed

Combined Activity-MDA Report

---- Identified Nuclides ----

| Nuclide | Activity (pCi/L) | Act error | MDA (pCi/L) | MDA error | Act/MDA |
|---------|---------------------|-----------|----------------|-----------|---------|
| K-40 | 3.374E+01 | 4.727E+01 | 5.409E+01 | 0.000E+00 | 0.624 |
| RA-226 | 3.234E+01 | 9.855E+01 | 1.335E+02 | 0.000E+00 | 0.242 |
| AC-228 | 1.866E+01 | 1.285E+01 | 1.845E+01 | 0.000E+00 | 1.012 |

---- Non-Identified Nuclides ----

| Nuclide | Key-Line Activity (pCi/L) | K.L. Ided | Act error | MDA (pCi/L) | MDA error | Act/MDA |
|---------|---------------------------------|--------------|-----------|----------------|-----------|---------|
| BE-7 | -3.787E+00 | | 2.808E+01 | 4.752E+01 | 0.000E+00 | -0.08 |

| | | | | | |
|---------|------------|-----------|---------------------|-----------|--------|
| NA-24 | 3.291E-03 | 1.221E-02 | Half-Life too short | 0.000E+00 | -0.585 |
| CR-51 | -3.070E+01 | 3.187E+01 | 5.250E+01 | 0.000E+00 | 0.215 |
| MN-54 | 1.177E+00 | 3.086E+00 | 5.482E+00 | 0.000E+00 | -0.190 |
| CO-57 | -1.146E+00 | 3.619E+00 | 6.047E+00 | 0.000E+00 | -0.243 |
| CO-58 | -1.312E+00 | 3.199E+00 | 5.399E+00 | 0.000E+00 | 0.188 |
| FE-59 | 2.006E+00 | 5.854E+00 | 1.067E+01 | 0.000E+00 | -0.279 |
| CO-60 | -1.292E+00 | 2.724E+00 | 4.629E+00 | 0.000E+00 | 0.137 |
| ZN-65 | 1.549E+00 | 6.255E+00 | 1.127E+01 | 0.000E+00 | -0.356 |
| SE-75 | -2.664E+00 | 4.456E+00 | 7.486E+00 | 0.000E+00 | 2.044 |
| SR-85 | 1.503E+01 | 3.767E+00 | 7.353E+00 | 0.000E+00 | -0.360 |
| Y-88 | -1.970E+00 | 3.244E+00 | 5.471E+00 | 0.000E+00 | 0.154 |
| NB-94 | 8.138E-01 | 3.007E+00 | 5.297E+00 | 0.000E+00 | 0.398 |
| NB-95 | 2.373E+00 | 3.291E+00 | 5.957E+00 | 0.000E+00 | -0.267 |
| ZR-95 | -2.489E+00 | 5.526E+00 | 9.330E+00 | 0.000E+00 | -0.610 |
| MO-99 | -1.587E+02 | 1.603E+02 | 2.603E+02 | 0.000E+00 | -0.029 |
| RU-103 | -1.737E-01 | 3.574E+00 | 6.064E+00 | 0.000E+00 | 0.390 |
| RU-106 | 1.973E+01 | 2.791E+01 | 5.064E+01 | 0.000E+00 | -0.197 |
| AG-110m | -9.812E-01 | 2.917E+00 | 4.984E+00 | 0.000E+00 | 0.205 |
| SN-113 | 1.512E+00 | 4.260E+00 | 7.377E+00 | 0.000E+00 | 0.687 |
| SB-124 | 3.751E+00 | 6.301E+00 | 5.457E+00 | 0.000E+00 | 0.400 |
| SB-125 | 6.233E+00 | 8.849E+00 | 1.560E+01 | 0.000E+00 | -0.124 |
| TE-129M | -8.617E+00 | 4.126E+01 | 6.955E+01 | 0.000E+00 | 0.347 |
| I-131 | 3.798E+00 | 6.251E+00 | 1.095E+01 | 0.000E+00 | 0.351 |
| BA-133 | 2.666E+00 | 5.096E+00 | 7.598E+00 | 0.000E+00 | 1.330 |
| CS-134 | 8.082E+00 | 5.388E+00 | 6.078E+00 | 0.000E+00 | -0.049 |
| CS-136 | -3.606E-01 | 4.281E+00 | 7.408E+00 | 0.000E+00 | 0.029 |
| CS-137 | 1.604E-01 | 3.111E+00 | 5.450E+00 | 0.000E+00 | 0.022 |
| CE-139 | 1.291E-01 | 3.577E+00 | 5.994E+00 | 0.000E+00 | 0.588 |
| BA-140 | 1.802E+01 | 1.706E+01 | 3.064E+01 | 0.000E+00 | 0.119 |
| LA-140 | 1.147E+00 | 5.241E+00 | 9.618E+00 | 0.000E+00 | 0.372 |
| CE-141 | 4.346E+00 | 8.032E+00 | 1.167E+01 | 0.000E+00 | -0.681 |
| CE-144 | -3.121E+01 | 3.324E+01 | 4.584E+01 | 0.000E+00 | -0.632 |
| EU-152 | -1.003E+01 | 1.122E+01 | 1.586E+01 | 0.000E+00 | -0.104 |
| EU-154 | -1.300E+00 | 7.444E+00 | 1.248E+01 | 0.000E+00 | 0.445 |
| TH-228 | 4.846E+00 | 6.345E+00 | 1.089E+01 | 0.000E+00 | 0.877 |
| TH-232 | 1.861E+01 | 1.282E+01 | 2.122E+01 | 0.000E+00 | 0.296 |
| U-235 | 1.355E+01 | 3.159E+01 | 4.580E+01 | 0.000E+00 | -0.021 |
| U-238 | -1.147E+01 | 3.159E+02 | 5.589E+02 | 0.000E+00 | 0.246 |
| AM-241 | 7.480E+00 | 2.129E+01 | 3.036E+01 | 0.000E+00 | |

A,23L28777-8 ,06/01/2006 17:26,05/24/2006 14:15, 3.550E+00,WG L28777-8 DR
 B,23L28777-8 ,LIBD ,06/01/2006 10:14,2335L090704
 C,K-40 ,YES, 3.374E+01, 4.727E+01, 5.409E+01,, 0.624
 C,RA-226 ,YES, 3.234E+01, 9.855E+01, 1.335E+02,, 0.242
 C,AC-228 ,YES, 1.866E+01, 1.285E+01, 1.845E+01,, 1.012
 C,BE-7 ,NO , -3.787E+00, 2.808E+01, 4.752E+01,, -0.080
 C,CR-51 ,NO , -3.070E+01, 3.187E+01, 5.250E+01,, -0.585
 C,MN-54 ,NO , 1.177E+00, 3.086E+00, 5.482E+00,, 0.215
 C,CO-57 ,NO , -1.146E+00, 3.619E+00, 6.047E+00,, -0.190
 C,CO-58 ,NO , -1.312E+00, 3.199E+00, 5.399E+00,, -0.243
 C,FE-59 ,NO , 2.006E+00, 5.854E+00, 1.067E+01,, 0.188
 C,CO-60 ,NO , -1.292E+00, 2.724E+00, 4.629E+00,, -0.279
 C,ZN-65 ,NO , 1.549E+00, 6.255E+00, 1.127E+01,, 0.137
 C,SE-75 ,NO , -2.664E+00, 4.456E+00, 7.486E+00,, -0.356
 C,SR-85 ,NO , 1.503E+01, 3.767E+00, 7.353E+00,, 2.044
 C,Y-88 ,NO , -1.970E+00, 3.244E+00, 5.471E+00,, -0.360
 C,NB-94 ,NO , 8.138E-01, 3.007E+00, 5.297E+00,, 0.154
 C,NB-95 ,NO , 2.373E+00, 3.291E+00, 5.957E+00,, 0.398
 C,ZR-95 ,NO , -2.489E+00, 5.526E+00, 9.330E+00,, -0.267
 C,MO-99 ,NO , -1.587E+02, 1.603E+02, 2.603E+02,, -0.610
 C,RU-103 ,NO , -1.737E-01, 3.574E+00, 6.064E+00,, -0.029
 C,RU-106 ,NO , 1.973E+01, 2.791E+01, 5.064E+01,, 0.390
 C,AG-110m ,NO , -9.812E-01, 2.917E+00, 4.984E+00,, -0.197
 C,SN-113 ,NO , 1.512E+00, 4.260E+00, 7.377E+00,, 0.205
 C,SB-124 ,NO , 3.751E+00, 6.301E+00, 5.457E+00,, 0.687
 C,SB-125 ,NO , 6.233E+00, 8.849E+00, 1.560E+01,, 0.400
 C,TE-129M ,NO , -8.617E+00, 4.126E+01, 6.955E+01,, -0.124
 C,I-131 ,NO , 3.798E+00, 6.251E+00, 1.095E+01,, 0.347
 C,BA-133 ,NO , 2.666E+00, 5.096E+00, 7.598E+00,, 0.351
 C,CS-134 ,NO , 8.082E+00, 5.388E+00, 6.078E+00,, 1.330
 C,CS-136 ,NO , -3.606E-01, 4.281E+00, 7.408E+00,, -0.049
 C,CS-137 ,NO , 1.604E-01, 3.111E+00, 5.450E+00,, 0.029
 C,CE-139 ,NO , 1.291E-01, 3.577E+00, 5.994E+00,, 0.022
 C,BA-140 ,NO , 1.802E+01, 1.706E+01, 3.064E+01,, 0.588
 C,LA-140 ,NO , 1.147E+00, 5.241E+00, 9.618E+00,, 0.119
 C,CE-141 ,NO , 4.346E+00, 8.032E+00, 1.167E+01,, 0.372
 C,CE-144 ,NO , -3.121E+01, 3.324E+01, 4.584E+01,, -0.681
 C,EU-152 ,NO , -1.003E+01, 1.122E+01, 1.586E+01,, -0.632
 C,EU-154 ,NO , -1.300E+00, 7.444E+00, 1.248E+01,, -0.104
 C,TH-228 ,NO , 4.846E+00, 6.345E+00, 1.089E+01,, 0.445
 C,TH-232 ,NO , 1.861E+01, 1.282E+01, 2.122E+01,, 0.877
 C,U-235 ,NO , 1.355E+01, 3.159E+01, 4.580E+01,, 0.296
 C,U-238 ,NO , -1.147E+01, 3.159E+02, 5.589E+02,, -0.021
 C,AM-241 ,NO , 7.480E+00, 2.129E+01, 3.036E+01,, 0.246

Sec. Review: Analyst: LIMS: ✓

VAX/VMS Teledyne Brown Eng. Laboratory Gamma Report: 1-JUN-2006 17:26:07.58
TBE04 P-40312B HpGe ***** Aquisition Date/Time: 1-JUN-2006 14:33:49.16

LIMS No., Customer Name, Client ID: WG L28777-9 DRESDEN

Sample ID : 04L28777-9 Smple Date: 24-MAY-2006 17:05:00.
Sample Type : WG Geometry : 0435L090804
Quantity : 3.50310E+00 L BKGFILE : 04BG050506MT
Start Channel : 90 Energy Tol : 1.00000 Real Time : 0 02:52:13.04
End Channel : 4090 Pk Srch Sens: 5.00000 Live time : 0 02:52:11.29
MDA Constant : 0.00 Library Used: LIBD

| Pk | It | Energy | Area | Bkgnd | FWHM | Channel | %Eff | Cts/Sec | %Err | Fit |
|----|----|----------|------|-------|------|---------|----------|----------|-------|----------|
| 1 | 1 | 66.26* | 65 | 236 | 1.44 | 133.09 | 6.46E-01 | 6.26E-03 | 42.3 | 2.05E+00 |
| 2 | 1 | 139.67* | 63 | 238 | 1.56 | 279.93 | 1.82E+00 | 6.08E-03 | 47.4 | 9.78E-01 |
| 3 | 1 | 185.80* | 28 | 174 | 1.38 | 372.19 | 1.73E+00 | 2.66E-03 | 91.2 | 1.38E+00 |
| 4 | 1 | 198.43* | 109 | 239 | 2.44 | 397.46 | 1.68E+00 | 1.06E-02 | 30.3 | 9.40E-01 |
| 5 | 1 | 238.37* | 5 | 147 | 1.36 | 477.36 | 1.52E+00 | 5.15E-04 | 438.3 | 2.61E+00 |
| 6 | 1 | 295.18* | 43 | 79 | 0.97 | 590.97 | 1.32E+00 | 4.16E-03 | 40.2 | 3.31E+00 |
| 7 | 1 | 351.91* | 30 | 104 | 1.17 | 704.45 | 1.17E+00 | 2.87E-03 | 68.4 | 1.71E+00 |
| 8 | 1 | 583.24* | 1 | 63 | 1.93 | 1167.09 | 7.99E-01 | 6.39E-05 | ***** | 1.66E+00 |
| 9 | 1 | 595.85 | 38 | 51 | 1.86 | 1192.31 | 7.86E-01 | 3.70E-03 | 41.1 | 4.44E-01 |
| 10 | 1 | 609.19* | 20 | 65 | 1.64 | 1218.99 | 7.73E-01 | 1.89E-03 | 88.4 | 1.45E+00 |
| 11 | 1 | 1460.34* | 11 | 16 | 2.45 | 2920.88 | 3.92E-01 | 1.10E-03 | 109.3 | 1.20E+00 |

Flag: "*" = Peak area was modified by background subtraction

Nuclide Line Activity Report

Nuclide Type: natural

| Nuclide | Energy | Area | %Abn | %Eff | Uncorrected pCi/L | Decay Corr pCi/L | 2-Sigma %Error |
|---------|---------|-------|--------|-----------|-------------------|------------------|----------------|
| K-40 | 1460.81 | 11 | 10.67* | 3.921E-01 | 2.036E+01 | 2.036E+01 | 218.56 |
| RA-226 | 186.21 | 28 | 3.28* | 1.727E+00 | 3.627E+01 | 3.627E+01 | 182.30 |
| TH-228 | 238.63 | 5 | 44.60* | 1.521E+00 | 5.860E-01 | 5.907E-01 | 876.50 |
| | 240.98 | ----- | 3.95 | 1.511E+00 | ----- | Line Not Found | ----- |
| U-235 | 143.76 | ----- | 10.50* | 1.822E+00 | ----- | Line Not Found | ----- |
| | 163.35 | ----- | 4.70 | 1.796E+00 | ----- | Line Not Found | ----- |
| | 185.71 | 28 | 54.00 | 1.727E+00 | 2.203E+00 | 2.203E+00 | 182.30 |
| | 205.31 | ----- | 4.70 | 1.652E+00 | ----- | Line Not Found | ----- |

Flag: "*" = Keyline

Page : 2

Summary of Nuclide Activity
 Sample ID : 04L28777-9

Acquisition date : 1-JUN-2006 14:33:49

Total number of lines in spectrum 11
 Number of unidentified lines 7
 Number of lines tentatively identified by NID 4 36.36%

Nuclide Type : natural

| Nuclide | Hlife | Decay | Uncorrected pCi/L | Decay Corr pCi/L | Decay Corr 2-Sigma Error | 2-Sigma %Error | Flags |
|------------------|-----------|-------|----------------------|---------------------|-----------------------------|-------------------|-------|
| K-40 | 1.28E+09Y | 1.00 | 2.036E+01 | 2.036E+01 | 4.449E+01 | 218.56 | |
| RA-226 | 1600.00Y | 1.00 | 3.627E+01 | 3.627E+01 | 6.612E+01 | 182.30 | |
| TH-228 | 1.91Y | 1.01 | 5.860E-01 | 5.907E-01 | 51.77E-01 | 876.50 | |
| U-235 | 7.04E+08Y | 1.00 | 2.203E+00 | 2.203E+00 | 4.016E+00 | 182.30 | K |
| Total Activity : | | | 5.941E+01 | 5.942E+01 | | | |

Grand Total Activity : 5.941E+01 5.942E+01

Flags: "K" = Keyline not found
 "E" = Manually edited

"M" = Manually accepted
 "A" = Nuclide specific abn. limit

Unidentified Energy Lines
Sample ID : 04L28777-9

Acquisition date : 1-JUN-2006 14:33:49

| It | Energy | Area | Bkgnd | FWHM | Channel | Left | Pw | Cts/Sec | %Err | %Eff | Flags |
|----|--------|------|-------|------|---------|------|----|----------|------|----------|-------|
| 1 | 66.26 | 65 | 236 | 1.44 | 133.09 | 130 | 7 | 6.26E-03 | 84.6 | 6.46E-01 | |
| 1 | 139.67 | 63 | 238 | 1.56 | 279.93 | 275 | 9 | 6.08E-03 | 94.8 | 1.82E+00 | |
| 1 | 198.43 | 109 | 239 | 2.44 | 397.46 | 392 | 12 | 1.06E-02 | 60.6 | 1.68E+00 | |
| 1 | 295.18 | 43 | 79 | 0.97 | 590.97 | 587 | 7 | 4.16E-03 | 80.5 | 1.32E+00 | |
| 1 | 351.91 | 30 | 104 | 1.17 | 704.45 | 700 | 9 | 2.87E-03 | **** | 1.17E+00 | |
| 1 | 583.24 | 1 | 63 | 1.93 | 1167.09 | 1161 | 13 | 6.39E-05 | **** | 7.99E-01 | T |
| 1 | 595.85 | 38 | 51 | 1.86 | 1192.31 | 1187 | 12 | 3.70E-03 | 82.1 | 7.86E-01 | |
| 1 | 609.19 | 20 | 65 | 1.64 | 1218.99 | 1214 | 10 | 1.89E-03 | **** | 7.73E-01 | |

Flags: "T" = Tentatively associated

Summary of Nuclide Activity

Total number of lines in spectrum 11
Number of unidentified lines 7
Number of lines tentatively identified by NID 4 36.36%

Nuclide Type : natural

| Nuclide | Hlife | Decay | Wtd Mean Uncorrected pCi/L | Wtd Mean Decay Corr pCi/L | Decay Corr 2-Sigma Error | 2-Sigma %Error | Flags |
|------------------|-----------|-------|----------------------------------|---------------------------------|-----------------------------|-------------------|-------|
| K-40 | 1.28E+09Y | 1.00 | 2.036E+01 | 2.036E+01 | 4.449E+01 | 218.56 | |
| RA-226 | 1600.00Y | 1.00 | 3.627E+01 | 3.627E+01 | 6.612E+01 | 182.30 | |
| TH-228 | 1.91Y | 1.01 | 5.860E-01 | 5.907E-01 | 51.77E-01 | 876.50 | |
| Total Activity : | | | 5.721E+01 | 5.722E+01 | | | |

Grand Total Activity : 5.721E+01 5.722E+01

Flags: "K" = Keyline not found "M" = Manually accepted
"E" = Manually edited "A" = Nuclide specific abn. limit

Interference Report

No interference correction performed

Combined Activity-MDA Report

---- Identified Nuclides ----

| Nuclide | Activity (pCi/L) | Act error | MDA (pCi/L) | MDA error | Act/MDA |
|---------|---------------------|-----------|----------------|-----------|---------|
| K-40 | 2.036E+01 | 4.449E+01 | 4.808E+01 | 0.000E+00 | 0.423 |
| RA-226 | 3.627E+01 | 6.612E+01 | 1.111E+02 | 0.000E+00 | 0.327 |
| TH-228 | 5.907E-01 | 5.177E+00 | 8.473E+00 | 0.000E+00 | 0.070 |


---- Non-Identified Nuclides ----

| Nuclide | Key-Line Activity (pCi/L) | K.L. Ided | Act error | MDA (pCi/L) | MDA error | Act/MDA |
|---------|---------------------------------|--------------|-----------|----------------|-----------|---------|
|---------|---------------------------------|--------------|-----------|----------------|-----------|---------|

| | | | | | |
|---------|------------|-----------|---------------------|-----------|--------|
| BE-7 | 1.603E+01 | 2.626E+01 | 4.463E+01 | 0.000E+00 | 0.359 |
| NA-24 | -1.233E-02 | 1.228E-02 | Half-Life too short | | |
| CR-51 | -1.455E+01 | 2.992E+01 | 4.742E+01 | 0.000E+00 | -0.307 |
| MN-54 | 2.208E+00 | 3.000E+00 | 5.253E+00 | 0.000E+00 | 0.420 |
| CO-57 | -2.183E-01 | 2.679E+00 | 4.433E+00 | 0.000E+00 | -0.049 |
| CO-58 | 5.008E-01 | 3.311E+00 | 5.553E+00 | 0.000E+00 | 0.090 |
| FE-59 | 1.849E+00 | 6.533E+00 | 1.109E+01 | 0.000E+00 | 0.167 |
| CO-60 | -9.560E-02 | 3.566E+00 | 6.097E+00 | 0.000E+00 | -0.016 |
| ZN-65 | 7.941E-02 | 7.166E+00 | 1.186E+01 | 0.000E+00 | 0.007 |
| SE-75 | 1.869E+00 | 4.123E+00 | 6.927E+00 | 0.000E+00 | 0.270 |
| SR-85 | 1.593E+01 | 4.095E+00 | 7.790E+00 | 0.000E+00 | 2.045 |
| Y-88 | 1.755E+00 | 3.304E+00 | 5.841E+00 | 0.000E+00 | 0.300 |
| NB-94 | -2.023E-01 | 2.932E+00 | 4.766E+00 | 0.000E+00 | -0.042 |
| NB-95 | 9.950E-01 | 3.178E+00 | 5.289E+00 | 0.000E+00 | 0.188 |
| ZR-95 | -1.581E+00 | 5.632E+00 | 8.927E+00 | 0.000E+00 | -0.177 |
| MO-99 | 1.155E+01 | 1.608E+02 | 2.632E+02 | 0.000E+00 | 0.044 |
| RU-103 | 1.378E+00 | 3.200E+00 | 5.368E+00 | 0.000E+00 | 0.257 |
| RU-106 | 2.404E+01 | 2.930E+01 | 5.099E+01 | 0.000E+00 | 0.472 |
| AG-110m | 2.482E+00 | 3.015E+00 | 5.244E+00 | 0.000E+00 | 0.473 |
| SN-113 | 3.244E-01 | 3.882E+00 | 6.467E+00 | 0.000E+00 | 0.050 |
| SB-124 | 2.112E+00 | 6.670E+00 | 5.382E+00 | 0.000E+00 | 0.392 |
| SB-125 | -6.940E+00 | 8.546E+00 | 1.339E+01 | 0.000E+00 | -0.518 |
| TE-129M | -1.786E+00 | 3.962E+01 | 6.476E+01 | 0.000E+00 | -0.028 |
| I-131 | -1.991E+00 | 5.617E+00 | 9.179E+00 | 0.000E+00 | -0.217 |
| BA-133 | 3.906E+00 | 4.732E+00 | 7.141E+00 | 0.000E+00 | 0.547 |
| CS-134 | 3.682E+00 | 5.616E+00 | 5.619E+00 | 0.000E+00 | 0.655 |
| CS-136 | 3.051E+00 | 4.507E+00 | 7.859E+00 | 0.000E+00 | 0.388 |
| CS-137 | -4.108E-01 | 3.337E+00 | 5.429E+00 | 0.000E+00 | -0.076 |
| CE-139 | -4.496E+00 | 2.794E+00 | 4.256E+00 | 0.000E+00 | -1.056 |
| BA-140 | 5.411E+00 | 1.521E+01 | 2.528E+01 | 0.000E+00 | 0.214 |
| LA-140 | 2.790E+00 | 5.568E+00 | 9.642E+00 | 0.000E+00 | 0.289 |
| CE-141 | 3.583E+00 | 6.522E+00 | 9.466E+00 | 0.000E+00 | 0.379 |
| CE-144 | -4.568E+00 | 2.464E+01 | 3.463E+01 | 0.000E+00 | -0.132 |
| EU-152 | -1.112E+01 | 1.108E+01 | 1.464E+01 | 0.000E+00 | -0.760 |
| EU-154 | -1.390E+00 | 5.558E+00 | 9.135E+00 | 0.000E+00 | -0.152 |
| AC-228 | 1.291E+00 | 1.237E+01 | 2.134E+01 | 0.000E+00 | 0.061 |
| TH-232 | 1.288E+00 | 1.234E+01 | 2.128E+01 | 0.000E+00 | 0.061 |
| U-235 | 8.346E+00 | 2.526E+01 | 3.629E+01 | 0.000E+00 | 0.230 |
| U-238 | -4.635E+01 | 3.637E+02 | 5.858E+02 | 0.000E+00 | -0.079 |
| AM-241 | -2.644E+01 | 2.642E+01 | 4.044E+01 | 0.000E+00 | -0.654 |

A,04L28777-9 ,06/01/2006 17:26,05/24/2006 17:05, 3.503E+00,WG L28777-9 DR
 B,04L28777-9 ,LIBD ,03/14/2005 09:04,0435L090804

| | | | | | |
|-----------|-------|-------------|------------|-------------|--------|
| C,K-40 | ,YES, | 2.036E+01, | 4.449E+01, | 4.808E+01,, | 0.423 |
| C,RA-226 | ,YES, | 3.627E+01, | 6.612E+01, | 1.111E+02,, | 0.327 |
| C,TH-228 | ,YES, | 5.907E-01, | 5.177E+00, | 8.473E+00,, | 0.070 |
| C,BE-7 | ,NO , | 1.603E+01, | 2.626E+01, | 4.463E+01,, | 0.359 |
| C,CR-51 | ,NO , | -1.455E+01, | 2.992E+01, | 4.742E+01,, | -0.307 |
| C,MN-54 | ,NO , | 2.208E+00, | 3.000E+00, | 5.253E+00,, | 0.420 |
| C,CO-57 | ,NO , | -2.183E-01, | 2.679E+00, | 4.433E+00,, | -0.049 |
| C,CO-58 | ,NO , | 5.008E-01, | 3.311E+00, | 5.553E+00,, | 0.090 |
| C,FE-59 | ,NO , | 1.849E+00, | 6.533E+00, | 1.109E+01,, | 0.167 |
| C,CO-60 | ,NO , | -9.560E-02, | 3.566E+00, | 6.097E+00,, | -0.016 |
| C,ZN-65 | ,NO , | 7.941E-02, | 7.166E+00, | 1.186E+01,, | 0.007 |
| C,SE-75 | ,NO , | 1.869E+00, | 4.123E+00, | 6.927E+00,, | 0.270 |
| C,SR-85 | ,NO , | 1.593E+01, | 4.095E+00, | 7.790E+00,, | 2.045 |
| C,Y-88 | ,NO , | 1.755E+00, | 3.304E+00, | 5.841E+00,, | 0.300 |
| C,NB-94 | ,NO , | -2.023E-01, | 2.932E+00, | 4.766E+00,, | -0.042 |
| C,NB-95 | ,NO , | 9.950E-01, | 3.178E+00, | 5.289E+00,, | 0.188 |
| C,ZR-95 | ,NO , | -1.581E+00, | 5.632E+00, | 8.927E+00,, | -0.177 |
| C,MO-99 | ,NO , | 1.155E+01, | 1.608E+02, | 2.632E+02,, | 0.044 |
| C,RU-103 | ,NO , | 1.378E+00, | 3.200E+00, | 5.368E+00,, | 0.257 |
| C,RU-106 | ,NO , | 2.404E+01, | 2.930E+01, | 5.099E+01,, | 0.472 |
| C,AG-110m | ,NO , | 2.482E+00, | 3.015E+00, | 5.244E+00,, | 0.473 |
| C,SN-113 | ,NO , | 3.244E-01, | 3.882E+00, | 6.467E+00,, | 0.050 |
| C,SB-124 | ,NO , | 2.112E+00, | 6.670E+00, | 5.382E+00,, | 0.392 |
| C,SB-125 | ,NO , | -6.940E+00, | 8.546E+00, | 1.339E+01,, | -0.518 |
| C,TE-129M | ,NO , | -1.786E+00, | 3.962E+01, | 6.476E+01,, | -0.028 |
| C,I-131 | ,NO , | -1.991E+00, | 5.617E+00, | 9.179E+00,, | -0.217 |
| C,BA-133 | ,NO , | 3.906E+00, | 4.732E+00, | 7.141E+00,, | 0.547 |
| C,CS-134 | ,NO , | 3.682E+00, | 5.616E+00, | 5.619E+00,, | 0.655 |
| C,CS-136 | ,NO , | 3.051E+00, | 4.507E+00, | 7.859E+00,, | 0.388 |
| C,CS-137 | ,NO , | -4.108E-01, | 3.337E+00, | 5.429E+00,, | -0.076 |
| C,CE-139 | ,NO , | -4.496E+00, | 2.794E+00, | 4.256E+00,, | -1.056 |
| C,BA-140 | ,NO , | 5.411E+00, | 1.521E+01, | 2.528E+01,, | 0.214 |
| C,LA-140 | ,NO , | 2.790E+00, | 5.568E+00, | 9.642E+00,, | 0.289 |
| C,CE-141 | ,NO , | 3.583E+00, | 6.522E+00, | 9.466E+00,, | 0.379 |
| C,CE-144 | ,NO , | -4.568E+00, | 2.464E+01, | 3.463E+01,, | -0.132 |
| C,EU-152 | ,NO , | -1.112E+01, | 1.108E+01, | 1.464E+01,, | -0.760 |
| C,EU-154 | ,NO , | -1.390E+00, | 5.558E+00, | 9.135E+00,, | -0.152 |
| C,AC-228 | ,NO , | 1.291E+00, | 1.237E+01, | 2.134E+01,, | 0.061 |
| C,TH-232 | ,NO , | 1.288E+00, | 1.234E+01, | 2.128E+01,, | 0.061 |
| C,U-235 | ,NO , | 8.346E+00, | 2.526E+01, | 3.629E+01,, | 0.230 |
| C,U-238 | ,NO , | -4.635E+01, | 3.637E+02, | 5.858E+02,, | -0.079 |
| C,AM-241 | ,NO , | -2.644E+01, | 2.642E+01, | 4.044E+01,, | -0.654 |

Sec. Review: Analyst: LIMS: 

VAX/VMS Teledyne Brown Eng. Laboratory Gamma Report: 1-JUN-2006 19:44:25.77
TBE13 P-10727B HpGe ***** Aquisition Date/Time: 1-JUN-2006 16:17:15.09

LIMS No., Customer Name, Client ID: WG L28777-10 DRESDEN

| | | | |
|---------------|-----------------|---------------|-----------------------|
| Sample ID | : 13L28777-10 | Smple Date: | 24-MAY-2006 11:37:00. |
| Sample Type | : WG | Geometry | : 1335L090904 |
| Quantity | : 3.42300E+00 L | BKGFILE | : 13BG050506MT |
| Start Channel | : 25 | Energy Tol | : 1.50000 |
| End Channel | : 4090 | Real Time | : 0 03:27:02.90 |
| MDA Constant | : 0.00 | Live time | : 0 03:26:59.36 |
| | | Pk Srch Sens: | 5.00000 |
| | | Library Used: | LIBD |

| Pk | It | Energy | Area | Bkgnd | FWHM | Channel | %Eff | Cts/Sec | %Err | Fit |
|----|----|----------|------|-------|------|---------|----------|----------|-------|----------|
| 1 | 1 | 63.26* | 16 | 343 | 1.03 | 126.56 | 6.19E-01 | 1.25E-03 | 203.2 | 2.32E+00 |
| 2 | 1 | 66.05* | 85 | 391 | 1.63 | 132.13 | 7.15E-01 | 6.82E-03 | 41.2 | 1.90E+00 |
| 3 | 3 | 77.34* | 76 | 514 | 1.40 | 154.70 | 1.10E+00 | 6.13E-03 | 58.1 | 6.59E+00 |
| 4 | 1 | 92.73* | 9 | 491 | 1.30 | 185.46 | 1.52E+00 | 7.57E-04 | 484.6 | 1.01E+00 |
| 5 | 1 | 140.02* | 34 | 414 | 1.01 | 279.98 | 2.02E+00 | 2.71E-03 | 110.6 | 3.81E+00 |
| 6 | 1 | 185.63* | 5 | 418 | 1.69 | 371.15 | 1.95E+00 | 4.23E-04 | 819.9 | 3.42E+00 |
| 7 | 1 | 198.07* | 77 | 339 | 1.33 | 396.03 | 1.90E+00 | 6.19E-03 | 43.8 | 7.63E-01 |
| 8 | 1 | 295.26* | 94 | 201 | 1.06 | 590.36 | 1.52E+00 | 7.56E-03 | 29.3 | 1.33E+00 |
| 9 | 1 | 351.99* | 214 | 216 | 1.30 | 703.79 | 1.34E+00 | 1.73E-02 | 16.3 | 1.71E+00 |
| 10 | 1 | 595.55 | 55 | 68 | 1.59 | 1190.99 | 9.12E-01 | 4.41E-03 | 29.2 | 1.80E+00 |
| 11 | 1 | 609.22* | 217 | 140 | 1.62 | 1218.35 | 8.96E-01 | 1.75E-02 | 14.7 | 5.86E-01 |
| 12 | 1 | 912.32* | 177 | 58 | 1.25 | 1824.99 | 6.63E-01 | 1.42E-02 | 9.9 | 2.52E+02 |
| 13 | 1 | 1120.77* | 33 | 52 | 1.23 | 2242.40 | 5.69E-01 | 2.65E-03 | 48.1 | 1.33E+00 |
| 14 | 1 | 1461.13* | 51 | 12 | 2.32 | 2924.31 | 4.69E-01 | 4.08E-03 | 32.9 | 6.84E-01 |
| 15 | 1 | 1744.76 | 51 | 5 | 8.13 | 3492.92 | 4.14E-01 | 4.09E-03 | 15.1 | 1.08E+00 |
| 16 | 1 | 1764.55* | 24 | 35 | 2.74 | 3532.62 | 4.11E-01 | 1.97E-03 | 62.9 | 1.48E+00 |

Flag: "*" = Peak area was modified by background subtraction

Nuclide Line Activity Report

Nuclide Type: natural

| Nuclide | Energy | Area | %Abn | %Eff | Uncorrected pCi/L | Decay Corr pCi/L | 2-Sigma %Error |
|---------|---------|-------|--------|-----------|----------------------|---------------------|-------------------|
| K-40 | 1460.81 | 51 | 10.67* | 4.688E-01 | 6.441E+01 | 6.441E+01 | 65.72 |
| RA-226 | 186.21 | 5 | 3.28* | 1.947E+00 | 5.236E+00 | 5.236E+00 | 1639.72 |
| AC-228 | 835.50 | ----- | 1.75 | 7.084E-01 | ----- | Line Not Found | ----- |
| | 911.07 | 177 | 27.70* | 6.634E-01 | 6.115E+01 | 6.132E+01 | 19.75 |
| U-235 | 143.76 | ----- | 10.50* | 2.023E+00 | ----- | Line Not Found | ----- |
| | 163.35 | ----- | 4.70 | 2.011E+00 | ----- | Line Not Found | ----- |
| | 185.71 | 5 | 54.00 | 1.947E+00 | 3.180E-01 | 3.180E-01 | 1639.72 |
| | 205.31 | ----- | 4.70 | 1.871E+00 | ----- | Line Not Found | ----- |

Flag: "*" = Keyline

Summary of Nuclide Activity
Sample ID : 13L28777-10

Acquisition date : 1-JUN-2006 16:17:15

Total number of lines in spectrum 16
Number of unidentified lines 13
Number of lines tentatively identified by NID 3 18.75%

Nuclide Type : natural

| Nuclide | Hlife | Decay | Uncorrected pCi/L | Decay Corr pCi/L | Decay Corr 2-Sigma Error | 2-Sigma %Error | Flags |
|------------------|-----------|-------|----------------------|---------------------|-----------------------------|-------------------|-------|
| K-40 | 1.28E+09Y | 1.00 | 6.441E+01 | 6.441E+01 | 4.233E+01 | 65.72 | |
| RA-226 | 1600.00Y | 1.00 | 5.236E+00 | 5.236E+00 | 85.86E+00 | 1639.72 | |
| AC-228 | 5.75Y | 1.00 | 6.115E+01 | 6.132E+01 | 1.211E+01 | 19.75 | |
| U-235 | 7.04E+08Y | 1.00 | 3.180E-01 | 3.180E-01 | 52.15E-01 | 1639.72 | K |
| Total Activity : | | | 1.311E+02 | 1.313E+02 | | | |

Grand Total Activity : 1.311E+02 1.313E+02

Flags: "K" = Keyline not found
"E" = Manually edited

"M" = Manually accepted
"A" = Nuclide specific abn. limit

Unidentified Energy Lines
Sample ID : 13L28777-10

Acquisition date : 1-JUN-2006 16:17:15

| It | Energy | Area | Bkgnd | FWHM | Channel | Left | Pw | Cts/Sec | %Err | %Eff | Flags |
|----|---------|------|-------|------|---------|------|----|----------|------|----------|-------|
| 1 | 63.26 | 16 | 343 | 1.03 | 126.56 | 124 | 6 | 1.25E-03 | **** | 6.19E-01 | |
| 1 | 66.05 | 85 | 391 | 1.63 | 132.13 | 130 | 7 | 6.82E-03 | 82.3 | 7.15E-01 | |
| 3 | 77.34 | 76 | 514 | 1.40 | 154.70 | 147 | 12 | 6.13E-03 | **** | 1.10E+00 | |
| 1 | 92.73 | 9 | 491 | 1.30 | 185.46 | 181 | 10 | 7.57E-04 | **** | 1.52E+00 | |
| 1 | 140.02 | 34 | 414 | 1.01 | 279.98 | 276 | 8 | 2.71E-03 | **** | 2.02E+00 | |
| 1 | 198.07 | 77 | 339 | 1.33 | 396.03 | 393 | 8 | 6.19E-03 | 87.5 | 1.90E+00 | |
| 1 | 295.26 | 94 | 201 | 1.06 | 590.36 | 588 | 8 | 7.56E-03 | 58.7 | 1.52E+00 | |
| 1 | 351.99 | 214 | 216 | 1.30 | 703.79 | 698 | 12 | 1.73E-02 | 32.6 | 1.34E+00 | |
| 1 | 595.55 | 55 | 68 | 1.59 | 1190.99 | 1187 | 8 | 4.41E-03 | 58.5 | 9.12E-01 | |
| 1 | 609.22 | 217 | 140 | 1.62 | 1218.35 | 1211 | 16 | 1.75E-02 | 29.5 | 8.96E-01 | |
| 1 | 1120.77 | 33 | 52 | 1.23 | 2242.40 | 2238 | 10 | 2.65E-03 | 96.2 | 5.69E-01 | |
| 1 | 1744.76 | 51 | 5 | 8.13 | 3492.92 | 3487 | 18 | 4.09E-03 | 30.3 | 4.14E-01 | |
| 1 | 1764.55 | 24 | 35 | 2.74 | 3532.62 | 3527 | 16 | 1.97E-03 | **** | 4.11E-01 | |

Flags: "T" = Tentatively associated

Summary of Nuclide Activity

| | | |
|---|----|--------|
| Total number of lines in spectrum | 16 | |
| Number of unidentified lines | 13 | |
| Number of lines tentatively identified by NID | 3 | 18.75% |

Nuclide Type : natural

| Nuclide | Hlife | Decay | Wtd Mean Uncorrected pCi/L | Wtd Mean Decay Corr pCi/L | Decay Corr 2-Sigma Error | 2-Sigma %Error | Flags |
|------------------|-----------|-------|----------------------------------|---------------------------------|-----------------------------|-------------------|-------|
| K-40 | 1.28E+09Y | 1.00 | 6.441E+01 | 6.441E+01 | 4.233E+01 | 65.72 | |
| RA-226 | 1600.00Y | 1.00 | 5.236E+00 | 5.236E+00 | 85.86E+00 | 1639.72 | |
| AC-228 | 5.75Y | 1.00 | 6.115E+01 | 6.132E+01 | 1.211E+01 | 19.75 | |
| Total Activity : | | | 1.308E+02 | 1.310E+02 | | | |

Grand Total Activity : 1.308E+02 1.310E+02

Flags: "K" = Keyline not found "M" = Manually accepted
"E" = Manually edited "A" = Nuclide specific abn. limit

Interference Report

No interference correction performed

Combined Activity-MDA Report

---- Identified Nuclides ----

| Nuclide | Activity (pCi/L) | Act error | MDA (pCi/L) | MDA error | Act/MDA |
|---------|---------------------|-----------|----------------|-----------|---------|
| K-40 | 6.441E+01 | 4.233E+01 | 4.014E+01 | 0.000E+00 | 1.605 |
| RA-226 | 5.236E+00 | 8.586E+01 | 1.133E+02 | 0.000E+00 | 0.046 |
| AC-228 | 6.132E+01 | 1.211E+01 | 1.598E+01 | 0.000E+00 | 3.838 |

----- Non-Identified Nuclides -----

| Nuclide | Key-Line Activity (pCi/L) | K.L. Ided | Act error | MDA (pCi/L) | MDA error | Act/MDA |
|---------|---------------------------------|--------------|-----------|---------------------|-----------|---------|
| BE-7 | 1.212E+01 | | 2.667E+01 | 4.452E+01 | 0.000E+00 | 0.272 |
| NA-24 | -2.331E-02 | | 1.488E-02 | Half-Life too short | 0.000E+00 | -0.640 |
| CR-51 | -2.928E+01 | | 2.860E+01 | 4.573E+01 | 0.000E+00 | -0.157 |
| MN-54 | -7.312E-01 | | 2.898E+00 | 4.657E+00 | 0.000E+00 | 0.362 |
| CO-57 | 1.766E+00 | | 2.885E+00 | 4.879E+00 | 0.000E+00 | 0.018 |
| CO-58 | 9.214E-02 | | 3.123E+00 | 5.120E+00 | 0.000E+00 | 0.298 |
| FE-59 | 3.059E+00 | | 6.005E+00 | 1.027E+01 | 0.000E+00 | -0.171 |
| CO-60 | -7.759E-01 | | 2.858E+00 | 4.543E+00 | 0.000E+00 | 0.527 |
| ZN-65 | 5.831E+00 | | 7.336E+00 | 1.106E+01 | 0.000E+00 | -0.006 |
| SE-75 | -4.244E-02 | | 4.041E+00 | 6.548E+00 | 0.000E+00 | 2.734 |
| SR-85 | 2.023E+01 | | 3.857E+00 | 7.399E+00 | 0.000E+00 | -0.788 |
| Y-88 | -3.912E+00 | | 3.453E+00 | 4.967E+00 | 0.000E+00 | -0.473 |
| NB-94 | -2.141E+00 | | 2.863E+00 | 4.528E+00 | 0.000E+00 | 0.647 |
| NB-95 | 3.640E+00 | | 3.222E+00 | 5.623E+00 | 0.000E+00 | -0.592 |
| ZR-95 | -5.296E+00 | | 5.760E+00 | 8.950E+00 | 0.000E+00 | -0.633 |
| MO-99 | -1.598E+02 | | 1.638E+02 | 2.524E+02 | 0.000E+00 | 0.268 |
| RU-103 | 1.440E+00 | | 3.229E+00 | 5.383E+00 | 0.000E+00 | 0.113 |
| RU-106 | 4.995E+00 | | 2.665E+01 | 4.409E+01 | 0.000E+00 | -0.320 |
| AG-110m | -1.464E+00 | | 2.842E+00 | 4.569E+00 | 0.000E+00 | 0.578 |
| SN-113 | 3.782E+00 | | 3.809E+00 | 6.543E+00 | 0.000E+00 | -0.167 |
| SB-124 | -8.206E-01 | | 5.618E+00 | 4.915E+00 | 0.000E+00 | 0.249 |
| SB-125 | 3.493E+00 | | 8.397E+00 | 1.404E+01 | 0.000E+00 | -0.220 |
| TE-129M | -1.381E+01 | | 3.896E+01 | 6.270E+01 | 0.000E+00 | 0.069 |
| I-131 | 6.666E-01 | | 5.801E+00 | 9.641E+00 | 0.000E+00 | 1.147 |
| BA-133 | 8.368E+00 | | 4.719E+00 | 7.298E+00 | 0.000E+00 | 0.944 |
| CS-134 | 5.237E+00 | | 3.992E+00 | 5.548E+00 | 0.000E+00 | 0.110 |
| CS-136 | 7.931E-01 | | 4.360E+00 | 7.215E+00 | 0.000E+00 | 0.950 |
| CS-137 | 5.290E+00 | | 3.080E+00 | 5.567E+00 | 0.000E+00 | 0.355 |
| CE-139 | 1.762E+00 | | 2.963E+00 | 4.967E+00 | 0.000E+00 | -0.181 |
| BA-140 | -4.547E+00 | | 1.573E+01 | 2.514E+01 | 0.000E+00 | 0.784 |
| LA-140 | 6.738E+00 | | 4.562E+00 | 8.592E+00 | 0.000E+00 | 0.345 |
| CE-141 | 3.310E+00 | | 6.641E+00 | 9.586E+00 | 0.000E+00 | 0.275 |
| CE-144 | 1.032E+01 | | 2.607E+01 | 3.760E+01 | 0.000E+00 | -0.627 |
| EU-152 | -9.338E+00 | | 1.109E+01 | 1.490E+01 | 0.000E+00 | 0.142 |
| EU-154 | 1.410E+00 | | 5.939E+00 | 9.949E+00 | 0.000E+00 | 0.371 |
| TH-228 | 3.682E+00 | | 5.831E+00 | 9.923E+00 | 0.000E+00 | 3.366 |
| TH-232 | 6.115E+01 | + | 1.208E+01 | 1.816E+01 | 0.000E+00 | 0.379 |
| U-235 | 1.429E+01 | | 2.597E+01 | 3.768E+01 | 0.000E+00 | -0.269 |
| U-238 | -1.410E+02 | | 3.253E+02 | 5.234E+02 | 0.000E+00 | 0.659 |
| AM-241 | 2.831E+01 | | 2.951E+01 | 4.296E+01 | 0.000E+00 | |

A,13L28777-10 ,06/01/2006 19:44,05/24/2006 11:37, 3.423E+00,WG L28777-10 D
 B,13L28777-10 ,LIBD ,06/01/2006 10:13,1335L090904
 C,K-40 ,YES, 6.441E+01, 4.233E+01, 4.014E+01,, 1.605
 C,RA-226 ,YES, 5.236E+00, 8.586E+01, 1.133E+02,, 0.046
 C,AC-228 ,YES, 6.132E+01, 1.211E+01, 1.598E+01,, 3.838
 C,BE-7 ,NO , 1.212E+01, 2.667E+01, 4.452E+01,, 0.272
 C,CR-51 ,NO , -2.928E+01, 2.860E+01, 4.573E+01,, -0.640
 C,MN-54 ,NO , -7.312E-01, 2.898E+00, 4.657E+00,, -0.157
 C,CO-57 ,NO , 1.766E+00, 2.885E+00, 4.879E+00,, 0.362
 C,CO-58 ,NO , 9.214E-02, 3.123E+00, 5.120E+00,, 0.018
 C,FE-59 ,NO , 3.059E+00, 6.005E+00, 1.027E+01,, 0.298
 C,CO-60 ,NO , -7.759E-01, 2.858E+00, 4.543E+00,, -0.171
 C,ZN-65 ,NO , 5.831E+00, 7.336E+00, 1.106E+01,, 0.527
 C,SE-75 ,NO , -4.244E-02, 4.041E+00, 6.548E+00,, -0.006
 C,SR-85 ,NO , 2.023E+01, 3.857E+00, 7.399E+00,, 2.734
 C,Y-88 ,NO , -3.912E+00, 3.453E+00, 4.967E+00,, -0.788
 C,NB-94 ,NO , -2.141E+00, 2.863E+00, 4.528E+00,, -0.473
 C,NB-95 ,NO , 3.640E+00, 3.222E+00, 5.623E+00,, 0.647
 C,ZR-95 ,NO , -5.296E+00, 5.760E+00, 8.950E+00,, -0.592
 C,MO-99 ,NO , -1.598E+02, 1.638E+02, 2.524E+02,, -0.633
 C,RU-103 ,NO , 1.440E+00, 3.229E+00, 5.383E+00,, 0.268
 C,RU-106 ,NO , 4.995E+00, 2.665E+01, 4.409E+01,, 0.113
 C,AG-110m ,NO , -1.464E+00, 2.842E+00, 4.569E+00,, -0.320
 C,SN-113 ,NO , 3.782E+00, 3.809E+00, 6.543E+00,, 0.578
 C,SB-124 ,NO , -8.206E-01, 5.618E+00, 4.915E+00,, -0.167
 C,SB-125 ,NO , 3.493E+00, 8.397E+00, 1.404E+01,, 0.249
 C,TE-129M ,NO , -1.381E+01, 3.896E+01, 6.270E+01,, -0.220
 C,I-131 ,NO , 6.666E-01, 5.801E+00, 9.641E+00,, 0.069
 C,BA-133 ,NO , 8.368E+00, 4.719E+00, 7.298E+00,, 1.147
 C,CS-134 ,NO , 5.237E+00, 3.992E+00, 5.548E+00,, 0.944
 C,CS-136 ,NO , 7.931E-01, 4.360E+00, 7.215E+00,, 0.110
 C,CS-137 ,NO , 5.290E+00, 3.080E+00, 5.567E+00,, 0.950
 C,CE-139 ,NO , 1.762E+00, 2.963E+00, 4.967E+00,, 0.355
 C,BA-140 ,NO , -4.547E+00, 1.573E+01, 2.514E+01,, -0.181
 C,LA-140 ,NO , 6.738E+00, 4.562E+00, 8.592E+00,, 0.784
 C,CE-141 ,NO , 3.310E+00, 6.641E+00, 9.586E+00,, 0.345
 C,CE-144 ,NO , 1.032E+01, 2.607E+01, 3.760E+01,, 0.275
 C,EU-152 ,NO , -9.338E+00, 1.109E+01, 1.490E+01,, -0.627
 C,EU-154 ,NO , 1.410E+00, 5.939E+00, 9.949E+00,, 0.142
 C,TH-228 ,NO , 3.682E+00, 5.831E+00, 9.923E+00,, 0.371
 C,TH-232 ,NO , 6.115E+01, 1.208E+01, 1.816E+01,, 3.366
 C,U-235 ,NO , 1.429E+01, 2.597E+01, 3.768E+01,, 0.379
 C,U-238 ,NO , -1.410E+02, 3.253E+02, 5.234E+02,, -0.269
 C,AM-241 ,NO , 2.831E+01, 2.951E+01, 4.296E+01,, 0.659

Sec. Review: Analyst: LIMS: C

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VAX/VMS Teledyne Brown Eng. Laboratory Gamma Report: 1-JUN-2006 20:20:50.53

TBE04 P-40312B HpGe ***** Aquisition Date/Time: 1-JUN-2006 17:27:53.46

LIMS No., Customer Name, Client ID: WG L28777-11 DRESDEN

| | | | |
|---------------|-----------------|---------------|-----------------------|
| Sample ID | : 04L28777-11 | Smple Date: | 24-MAY-2006 13:20:00. |
| Sample Type | : WG | Geometry | : 0435L090804 |
| Quantity | : 3.48290E+00 L | BKGFILE | : 04BG050506MT |
| Start Channel | : 90 | Energy Tol | : 1.00000 |
| End Channel | : 4090 | Real Time | : 0 02:52:52.35 |
| MDA Constant | : 0.00 | Live time | : 0 02:52:50.58 |
| | | Pk Srch Sens: | 5.00000 |
| | | Library Used: | LIBD |

| Pk | It | Energy | Area | Bkgnd | FWHM | Channel | %Eff | Cts/Sec | %Err | Fit |
|----|----|----------|------|-------|------|---------|----------|----------|-------|----------|
| 1 | 1 | 84.27* | 6 | 223 | 1.38 | 169.10 | 1.19E+00 | 6.08E-04 | 421.6 | 9.45E-01 |
| 2 | 1 | 92.93* | 36 | 281 | 1.89 | 186.44 | 1.40E+00 | 3.44E-03 | 95.5 | 1.84E+00 |
| 3 | 1 | 139.89* | 55 | 257 | 1.34 | 280.38 | 1.82E+00 | 5.30E-03 | 56.0 | 2.35E+00 |
| 4 | 1 | 198.25* | 127 | 189 | 3.41 | 397.10 | 1.68E+00 | 1.23E-02 | 21.3 | 6.49E+00 |
| 5 | 1 | 238.66* | 12 | 161 | 0.85 | 477.94 | 1.52E+00 | 1.16E-03 | 191.8 | 1.16E+00 |
| 6 | 1 | 294.90* | 41 | 135 | 1.74 | 590.42 | 1.32E+00 | 3.96E-03 | 55.4 | 1.05E+00 |
| 7 | 1 | 351.33* | 33 | 151 | 1.80 | 703.27 | 1.17E+00 | 3.17E-03 | 79.9 | 3.39E+00 |
| 8 | 1 | 595.98 | 45 | 83 | 2.08 | 1192.58 | 7.86E-01 | 4.33E-03 | 47.5 | 1.48E+00 |
| 9 | 1 | 609.24* | 42 | 69 | 1.86 | 1219.09 | 7.73E-01 | 4.07E-03 | 46.3 | 1.86E+00 |
| 10 | 1 | 1333.64 | 42 | 28 | 1.06 | 2667.58 | 4.20E-01 | 4.08E-03 | 28.4 | 3.42E+01 |
| 11 | 1 | 1460.46* | 16 | 17 | 2.15 | 2921.12 | 3.92E-01 | 1.56E-03 | 78.9 | 1.11E+00 |

Flag: "*" = Peak area was modified by background subtraction

Nuclide Line Activity Report

Nuclide Type: natural

| Nuclide | Energy | Area | %Abn | %Eff | Uncorrected pCi/L | Decay Corr pCi/L | 2-Sigma %Error |
|---------|---------|-------|--------|-----------|----------------------|---------------------|-------------------|
| K-40 | 1460.81 | 16 | 10.67* | 3.921E-01 | 2.890E+01 | 2.890E+01 | 157.71 |
| TH-228 | 238.63 | 12 | 44.60* | 1.520E+00 | 1.331E+00 | 1.342E+00 | 383.60 |
| | 240.98 | ----- | 3.95 | 1.511E+00 | ----- | Line Not Found | ----- |

Flag: "*" = Keyline

Summary of Nuclide Activity
 Sample ID : 04L28777-11

Acquisition date : 1-JUN-2006 17:27:53

Total number of lines in spectrum 11
 Number of unidentified lines 9
 Number of lines tentatively identified by NID 2 18.18%

Nuclide Type : natural

| Nuclide | Hlife | Decay | Uncorrected pCi/L | Decay Corr pCi/L | Decay Corr 2-Sigma Error | 2-Sigma %Error | Flags |
|------------------|-----------|-------|----------------------|---------------------|-----------------------------|-------------------|-------|
| K-40 | 1.28E+09Y | 1.00 | 2.890E+01 | 2.890E+01 | 4.559E+01 | 157.71 | |
| TH-228 | 1.91Y | 1.01 | 1.331E+00 | 1.342E+00 | 5.149E+00 | 383.60 | |
| Total Activity : | | | 3.024E+01 | 3.025E+01 | | | |

Grand Total Activity : 3.024E+01 3.025E+01

Flags: "K" = Keyline not found
 "E" = Manually edited

"M" = Manually accepted
 "A" = Nuclide specific abn. limit

Unidentified Energy Lines
Sample ID : 04L28777-11

Acquisition date : 1-JUN-2006 17:27:53

| It | Energy | Area | Bkgnd | FWHM | Channel | Left | Pw | Cts/Sec | %Err | %Eff | Flags |
|----|---------|------|-------|------|---------|------|----|----------|------|----------|-------|
| 1 | 84.27 | 6 | 223 | 1.38 | 169.10 | 166 | 7 | 6.08E-04 | **** | 1.19E+00 | |
| 1 | 92.93 | 36 | 281 | 1.89 | 186.44 | 182 | 10 | 3.44E-03 | **** | 1.40E+00 | |
| 1 | 139.89 | 55 | 257 | 1.34 | 280.38 | 276 | 9 | 5.30E-03 | **** | 1.82E+00 | |
| 1 | 198.25 | 127 | 189 | 3.41 | 397.10 | 394 | 9 | 1.23E-02 | 42.7 | 1.68E+00 | |
| 1 | 294.90 | 41 | 135 | 1.74 | 590.42 | 587 | 9 | 3.96E-03 | **** | 1.32E+00 | |
| 1 | 351.33 | 33 | 151 | 1.80 | 703.27 | 698 | 12 | 3.17E-03 | **** | 1.17E+00 | |
| 1 | 595.98 | 45 | 83 | 2.08 | 1192.58 | 1187 | 16 | 4.33E-03 | 95.0 | 7.86E-01 | |
| 1 | 609.24 | 42 | 69 | 1.86 | 1219.09 | 1211 | 14 | 4.07E-03 | 92.6 | 7.73E-01 | |
| 1 | 1333.64 | 42 | 28 | 1.06 | 2667.58 | 2658 | 14 | 4.08E-03 | 56.9 | 4.20E-01 | |

Flags: "T" = Tentatively associated

Summary of Nuclide Activity

| | | |
|---|----|--------|
| Total number of lines in spectrum | 11 | |
| Number of unidentified lines | 9 | |
| Number of lines tentatively identified by NID | 2 | 18.18% |

Nuclide Type : natural

| Nuclide | Hlife | Decay | Wtd Mean Uncorrected pCi/L | Wtd Mean Decay Corr pCi/L | Decay Corr 2-Sigma Error | 2-Sigma %Error | Flags |
|------------------|-----------|-------|----------------------------------|---------------------------------|-----------------------------|-------------------|-------|
| K-40 | 1.28E+09Y | 1.00 | 2.890E+01 | 2.890E+01 | 4.559E+01 | 157.71 | |
| TH-228 | 1.91Y | 1.01 | 1.331E+00 | 1.342E+00 | 5.149E+00 | 383.60 | |
| Total Activity : | | | 3.024E+01 | 3.025E+01 | | | |

Grand Total Activity : 3.024E+01 3.025E+01

Flags: "K" = Keyline not found "M" = Manually accepted
"E" = Manually edited "A" = Nuclide specific abn. limit

Interference Report

No interference correction performed

Combined Activity-MDA Report

---- Identified Nuclides ----

| Nuclide | Activity (pCi/L) | Act error | MDA (pCi/L) | MDA error | Act/MDA |
|---------|---------------------|-----------|----------------|-----------|---------|
| K-40 | 2.890E+01 | 4.559E+01 | 5.225E+01 | 0.000E+00 | 0.553 |
| TH-228 | 1.342E+00 | 5.149E+00 | 8.198E+00 | 0.000E+00 | 0.164 |

---- Non-Identified Nuclides ----

| Nuclide | Key-Line Activity (pCi/L) | K.L. Ided | Act error | MDA (pCi/L) | MDA error | Act/MDA |
|---------|---------------------------------|--------------|-----------|----------------|-----------|---------|
|---------|---------------------------------|--------------|-----------|----------------|-----------|---------|

| | | | | | |
|---------|------------|-----------|---------------------|-----------|--------|
| BE-7 | 1.811E+01 | 2.688E+01 | 4.583E+01 | 0.000E+00 | 0.395 |
| NA-24 | -5.837E-02 | 1.413E-02 | Half-Life too short | | |
| CR-51 | -7.058E-02 | 3.121E+01 | 5.075E+01 | 0.000E+00 | -0.001 |
| MN-54 | -2.513E+00 | 2.916E+00 | 4.459E+00 | 0.000E+00 | -0.564 |
| CO-57 | -1.485E+00 | 2.689E+00 | 4.372E+00 | 0.000E+00 | -0.340 |
| CO-58 | -5.106E-01 | 3.266E+00 | 5.348E+00 | 0.000E+00 | -0.095 |
| FE-59 | 2.656E+00 | 6.134E+00 | 1.057E+01 | 0.000E+00 | 0.251 |
| CO-60 | 2.694E+00 | 3.773E+00 | 6.835E+00 | 0.000E+00 | 0.394 |
| ZN-65 | 7.670E+00 | 6.668E+00 | 1.213E+01 | 0.000E+00 | 0.632 |
| SE-75 | -1.604E+00 | 3.989E+00 | 6.449E+00 | 0.000E+00 | -0.249 |
| SR-85 | 1.403E+01 | 3.891E+00 | 7.383E+00 | 0.000E+00 | 1.900 |
| Y-88 | 1.845E+00 | 3.523E+00 | 6.199E+00 | 0.000E+00 | 0.298 |
| NB-94 | -1.321E+00 | 2.987E+00 | 4.718E+00 | 0.000E+00 | -0.280 |
| NB-95 | 1.904E+00 | 3.201E+00 | 5.444E+00 | 0.000E+00 | 0.350 |
| ZR-95 | 3.212E+00 | 5.693E+00 | 9.670E+00 | 0.000E+00 | 0.332 |
| MO-99 | -4.882E+01 | 1.899E+02 | 3.028E+02 | 0.000E+00 | -0.161 |
| RU-103 | -9.433E-02 | 3.435E+00 | 5.587E+00 | 0.000E+00 | -0.017 |
| RU-106 | 2.378E+01 | 2.963E+01 | 5.148E+01 | 0.000E+00 | 0.462 |
| AG-110m | -8.838E-01 | 3.212E+00 | 5.175E+00 | 0.000E+00 | -0.171 |
| SN-113 | 1.848E+00 | 3.959E+00 | 6.731E+00 | 0.000E+00 | 0.275 |
| SB-124 | -1.634E+00 | 7.703E+00 | 5.417E+00 | 0.000E+00 | -0.302 |
| SB-125 | -2.829E-01 | 8.333E+00 | 1.370E+01 | 0.000E+00 | -0.021 |
| TE-129M | -2.732E+01 | 3.896E+01 | 6.100E+01 | 0.000E+00 | -0.448 |
| I-131 | 2.417E+00 | 5.794E+00 | 9.869E+00 | 0.000E+00 | 0.245 |
| BA-133 | -5.416E-01 | 4.603E+00 | 6.486E+00 | 0.000E+00 | -0.083 |
| CS-134 | 1.216E+00 | 7.180E+00 | 5.549E+00 | 0.000E+00 | 0.219 |
| CS-136 | -4.085E-01 | 4.440E+00 | 7.300E+00 | 0.000E+00 | -0.056 |
| CS-137 | 1.917E+00 | 3.318E+00 | 5.673E+00 | 0.000E+00 | 0.338 |
| CE-139 | -2.723E+00 | 3.014E+00 | 4.750E+00 | 0.000E+00 | -0.573 |
| BA-140 | 2.367E+00 | 1.673E+01 | 2.736E+01 | 0.000E+00 | 0.086 |
| LA-140 | -2.129E+00 | 5.223E+00 | 8.081E+00 | 0.000E+00 | -0.263 |
| CE-141 | -3.029E-01 | 6.423E+00 | 9.039E+00 | 0.000E+00 | -0.034 |
| CE-144 | -8.328E+00 | 2.431E+01 | 3.385E+01 | 0.000E+00 | -0.246 |
| EU-152 | -9.868E+00 | 1.207E+01 | 1.556E+01 | 0.000E+00 | -0.634 |
| EU-154 | -3.875E+00 | 5.633E+00 | 9.109E+00 | 0.000E+00 | -0.425 |
| RA-226 | -4.597E+00 | 7.351E+01 | 1.207E+02 | 0.000E+00 | -0.038 |
| AC-228 | -4.745E-01 | 1.219E+01 | 2.084E+01 | 0.000E+00 | -0.023 |
| TH-232 | -4.732E-01 | 1.216E+01 | 2.078E+01 | 0.000E+00 | -0.023 |
| U-235 | -1.062E+00 | 2.462E+01 | 3.468E+01 | 0.000E+00 | -0.031 |
| U-238 | 2.828E+02 | 3.234E+02 | 5.708E+02 | 0.000E+00 | 0.495 |
| AM-241 | -2.046E+01 | 2.572E+01 | 4.093E+01 | 0.000E+00 | -0.500 |

A,04L28777-11 ,06/01/2006 20:20,05/24/2006 13:20, 3.483E+00,WG L28777-11 D
 B,04L28777-11 ,LIBD ,03/14/2005 09:04,0435L090804
 C,K-40 ,YES, 2.890E+01, 4.559E+01, 5.225E+01,, 0.553
 C,TH-228 ,YES, 1.342E+00, 5.149E+00, 8.198E+00,, 0.164
 C,BE-7 ,NO , 1.811E+01, 2.688E+01, 4.583E+01,, 0.395
 C,CR-51 ,NO , -7.058E-02, 3.121E+01, 5.075E+01,, -0.001
 C,MN-54 ,NO , -2.513E+00, 2.916E+00, 4.459E+00,, -0.564
 C,CO-57 ,NO , -1.485E+00, 2.689E+00, 4.372E+00,, -0.340
 C,CO-58 ,NO , -5.106E-01, 3.266E+00, 5.348E+00,, -0.095
 C,FE-59 ,NO , 2.656E+00, 6.134E+00, 1.057E+01,, 0.251
 C,CO-60 ,NO , 2.694E+00, 3.773E+00, 6.835E+00,, 0.394
 C,ZN-65 ,NO , 7.670E+00, 6.668E+00, 1.213E+01,, 0.632
 C,SE-75 ,NO , -1.604E+00, 3.989E+00, 6.449E+00,, -0.249
 C,SR-85 ,NO , 1.403E+01, 3.891E+00, 7.383E+00,, 1.900
 C,Y-88 ,NO , 1.845E+00, 3.523E+00, 6.199E+00,, 0.298
 C,NB-94 ,NO , -1.321E+00, 2.987E+00, 4.718E+00,, -0.280
 C,NB-95 ,NO , 1.904E+00, 3.201E+00, 5.444E+00,, 0.350
 C,ZR-95 ,NO , 3.212E+00, 5.693E+00, 9.670E+00,, 0.332
 C,MO-99 ,NO , -4.882E+01, 1.899E+02, 3.028E+02,, -0.161
 C,RU-103 ,NO , -9.433E-02, 3.435E+00, 5.587E+00,, -0.017
 C,RU-106 ,NO , 2.378E+01, 2.963E+01, 5.148E+01,, 0.462
 C,AG-110m ,NO , -8.838E-01, 3.212E+00, 5.175E+00,, -0.171
 C,SN-113 ,NO , 1.848E+00, 3.959E+00, 6.731E+00,, 0.275
 C,SB-124 ,NO , -1.634E+00, 7.703E+00, 5.417E+00,, -0.302
 C,SB-125 ,NO , -2.829E-01, 8.333E+00, 1.370E+01,, -0.021
 C,TE-129M ,NO , -2.732E+01, 3.896E+01, 6.100E+01,, -0.448
 C,I-131 ,NO , 2.417E+00, 5.794E+00, 9.869E+00,, 0.245
 C,BA-133 ,NO , -5.416E-01, 4.603E+00, 6.486E+00,, -0.083
 C,CS-134 ,NO , 1.216E+00, 7.180E+00, 5.549E+00,, 0.219
 C,CS-136 ,NO , -4.085E-01, 4.440E+00, 7.300E+00,, -0.056
 C,CS-137 ,NO , 1.917E+00, 3.318E+00, 5.673E+00,, 0.338
 C,CE-139 ,NO , -2.723E+00, 3.014E+00, 4.750E+00,, -0.573
 C,BA-140 ,NO , 2.367E+00, 1.673E+01, 2.736E+01,, 0.086
 C,LA-140 ,NO , -2.129E+00, 5.223E+00, 8.081E+00,, -0.263
 C,CE-141 ,NO , -3.029E-01, 6.423E+00, 9.039E+00,, -0.034
 C,CE-144 ,NO , -8.328E+00, 2.431E+01, 3.385E+01,, -0.246
 C,EU-152 ,NO , -9.868E+00, 1.207E+01, 1.556E+01,, -0.634
 C,EU-154 ,NO , -3.875E+00, 5.633E+00, 9.109E+00,, -0.425
 C,RA-226 ,NO , -4.597E+00, 7.351E+01, 1.207E+02,, -0.038
 C,AC-228 ,NO , -4.745E-01, 1.219E+01, 2.084E+01,, -0.023
 C,TH-232 ,NO , -4.732E-01, 1.216E+01, 2.078E+01,, -0.023
 C,U-235 ,NO , -1.062E+00, 2.462E+01, 3.468E+01,, -0.031
 C,U-238 ,NO , 2.828E+02, 3.234E+02, 5.708E+02,, 0.495
 C,AM-241 ,NO , -2.046E+01, 2.572E+01, 4.093E+01,, -0.500

Sec. Review: Analyst: LIMS: ✓

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VAX/VMS Teledyne Brown Eng. Laboratory Gamma Report: 1-JUN-2006 20:35:30.80

TBE23 03017322 HpGe ***** Aquisition Date/Time: 1-JUN-2006 17:27:57.03

LIMS No., Customer Name, Client ID: WG L28777-12 DRESDEN

| | | | |
|---------------|-----------------|---------------|-----------------------|
| Sample ID | : 23L28777-12 | Smple Date: | 25-MAY-2006 06:40:00. |
| Sample Type | : WG | Geometry | : 2335L090704 |
| Quantity | : 3.46670E+00 L | BKGFILE | : 23BG050506MT |
| Start Channel | : 50 | Energy Tol | : 1.50000 |
| End Channel | : 4090 | Real Time | : 0 03:07:19.49 |
| MDA Constant | : 0.00 | Live time | : 0 03:07:11.73 |
| | | Pk Srch Sens: | 5.00000 |
| | | Library Used: | LIBD |

| Pk | It | Energy | Area | Bkgnd | FWHM | Channel | %Eff | Cts/Sec | %Err | Fit |
|----|----|----------|------|-------|------|---------|----------|----------|-------|----------|
| 1 | 0 | 33.96* | 26 | 137 | 1.89 | 68.24 | 9.64E-02 | 2.28E-03 | 92.0 | |
| 2 | 2 | 40.90* | 11 | 342 | 1.47 | 82.11 | 2.35E-01 | 9.68E-04 | 317.6 | 5.12E-01 |
| 3 | 2 | 43.61 | 25 | 248 | 1.11 | 87.53 | 3.05E-01 | 2.19E-03 | 111.2 | |
| 4 | 0 | 139.22* | 63 | 475 | 1.43 | 278.61 | 2.05E+00 | 5.61E-03 | 62.1 | |
| 5 | 0 | 185.34* | 28 | 341 | 1.61 | 370.78 | 1.95E+00 | 2.49E-03 | 124.3 | |
| 6 | 0 | 238.42* | 40 | 393 | 1.64 | 476.88 | 1.73E+00 | 3.52E-03 | 100.8 | |
| 7 | 0 | 295.00* | 7 | 241 | 1.16 | 589.96 | 1.50E+00 | 6.44E-04 | 392.0 | |
| 8 | 0 | 351.99* | 233 | 150 | 1.33 | 703.89 | 1.32E+00 | 2.08E-02 | 13.2 | |
| 9 | 0 | 510.89* | 10 | 161 | 2.45 | 1021.52 | 9.85E-01 | 9.32E-04 | 338.1 | |
| 10 | 0 | 595.94 | 49 | 72 | 0.93 | 1191.57 | 8.74E-01 | 4.34E-03 | 34.5 | |
| 11 | 0 | 609.31* | 166 | 96 | 1.59 | 1218.29 | 8.59E-01 | 1.48E-02 | 15.5 | |
| 12 | 0 | 1119.95* | 35 | 17 | 1.31 | 2239.43 | 5.53E-01 | 3.14E-03 | 30.6 | |
| 13 | 0 | 1461.62* | 48 | 29 | 1.60 | 2922.88 | 4.59E-01 | 4.24E-03 | 37.9 | |
| 14 | 0 | 1765.28* | 49 | 28 | 1.68 | 3530.47 | 4.00E-01 | 4.35E-03 | 29.9 | |

Flag: "*" = Peak area was modified by background subtraction

Nuclide Line Activity Report

Nuclide Type: natural

| Nuclide | Energy | Area | %Abn | %Eff | Uncorrected pCi/L | Decay Corr pCi/L | 2-Sigma %Error |
|---------|---------|-------|--------|-----------|----------------------|---------------------|-------------------|
| K-40 | 1460.81 | 48 | 10.67* | 4.593E-01 | 6.745E+01 | 6.745E+01 | 75.85 |
| RA-226 | 186.21 | 28 | 3.28* | 1.949E+00 | 3.042E+01 | 3.042E+01 | 248.64 |
| TH-228 | 238.63 | 40 | 44.60* | 1.725E+00 | 3.571E+00 | 3.598E+00 | 201.57 |
| | 240.98 | ----- | 3.95 | 1.714E+00 | ----- | Line Not Found | ----- |

Flag: "*" = Keyline

Summary of Nuclide Activity
 Sample ID : 23L28777-12

Acquisition date : 1-JUN-2006 17:27:57

Total number of lines in spectrum 14
 Number of unidentified lines 11
 Number of lines tentatively identified by NID 3 21.43%

Nuclide Type : natural

| Nuclide | Hlife | Decay | Uncorrected pCi/L | Decay Corr pCi/L | Decay Corr 2-Sigma Error | 2-Sigma %Error | Flags |
|------------------|-----------|-------|----------------------|---------------------|-----------------------------|-------------------|-------|
| K-40 | 1.28E+09Y | 1.00 | 6.745E+01 | 6.745E+01 | 5.116E+01 | 75.85 | |
| RA-226 | 1600.00Y | 1.00 | 3.042E+01 | 3.042E+01 | 7.564E+01 | 248.64 | |
| TH-228 | 1.91Y | 1.01 | 3.571E+00 | 3.598E+00 | 7.253E+00 | 201.57 | |
| Total Activity : | | | 1.014E+02 | 1.015E+02 | | | |

Grand Total Activity : 1.014E+02 1.015E+02

Flags: "K" = Keyline not found
 "E" = Manually edited

"M" = Manually accepted
 "A" = Nuclide specific abn. limit

Unidentified Energy Lines
Sample ID : 23L28777-12

Acquisition date : 1-JUN-2006 17:27:57

| It | Energy | Area | Bkgnd | FWHM | Channel | Left | Pw | Cts/Sec | %Err | %Eff | Flags |
|----|---------|------|-------|------|---------|------|----|----------|------|----------|-------|
| 0 | 33.96 | 26 | 137 | 1.89 | 68.24 | 65 | 8 | 2.28E-03 | **** | 9.64E-02 | |
| 2 | 40.90 | 11 | 342 | 1.47 | 82.11 | 75 | 16 | 9.68E-04 | **** | 2.35E-01 | |
| 2 | 43.61 | 25 | 248 | 1.11 | 87.53 | 75 | 16 | 2.19E-03 | **** | 3.05E-01 | |
| 0 | 139.22 | 63 | 475 | 1.43 | 278.61 | 275 | 8 | 5.61E-03 | **** | 2.05E+00 | |
| 0 | 295.00 | 7 | 241 | 1.16 | 589.96 | 586 | 8 | 6.44E-04 | **** | 1.50E+00 | |
| 0 | 351.99 | 233 | 150 | 1.33 | 703.89 | 699 | 13 | 2.08E-02 | 26.4 | 1.32E+00 | |
| 0 | 510.89 | 10 | 161 | 2.45 | 1021.52 | 1012 | 19 | 9.32E-04 | **** | 9.85E-01 | |
| 0 | 595.94 | 49 | 72 | 0.93 | 1191.57 | 1187 | 9 | 4.34E-03 | 69.0 | 8.74E-01 | |
| 0 | 609.31 | 166 | 96 | 1.59 | 1218.29 | 1210 | 14 | 1.48E-02 | 31.0 | 8.59E-01 | |
| 0 | 1119.95 | 35 | 17 | 1.31 | 2239.43 | 2234 | 11 | 3.14E-03 | 61.3 | 5.53E-01 | |
| 0 | 1765.28 | 49 | 28 | 1.68 | 3530.47 | 3522 | 16 | 4.35E-03 | 59.7 | 4.00E-01 | |

Flags: "T" = Tentatively associated

Summary of Nuclide Activity

Total number of lines in spectrum 14
 Number of unidentified lines 11
 Number of lines tentatively identified by NID 3 21.43%

Nuclide Type : natural

| Nuclide | Hlife | Decay | Wtd Mean Uncorrected pCi/L | Wtd Mean Decay Corr pCi/L | Decay Corr 2-Sigma Error | 2-Sigma %Error | Flags |
|------------------|-----------|-------|----------------------------------|---------------------------------|-----------------------------|-------------------|-------|
| K-40 | 1.28E+09Y | 1.00 | 6.745E+01 | 6.745E+01 | 5.116E+01 | 75.85 | |
| RA-226 | 1600.00Y | 1.00 | 3.042E+01 | 3.042E+01 | 7.564E+01 | 248.64 | |
| TH-228 | 1.91Y | 1.01 | 3.571E+00 | 3.598E+00 | 7.253E+00 | 201.57 | |
| Total Activity : | | | 1.014E+02 | 1.015E+02 | | | |

Grand Total Activity : 1.014E+02 1.015E+02

Flags: "K" = Keyline not found "M" = Manually accepted
 "E" = Manually edited "A" = Nuclide specific abn. limit

Interference Report

No interference correction performed

Combined Activity-MDA Report

---- Identified Nuclides ----

| Nuclide | Activity (pCi/L) | Act error | MDA (pCi/L) | MDA error | Act/MDA |
|---------|---------------------|-----------|----------------|-----------|---------|
| K-40 | 6.745E+01 | 5.116E+01 | 4.604E+01 | 0.000E+00 | 1.465 |
| RA-226 | 3.042E+01 | 7.564E+01 | 1.471E+02 | 0.000E+00 | 0.207 |
| TH-228 | 3.598E+00 | 7.253E+00 | 1.016E+01 | 0.000E+00 | 0.354 |

---- Non-Identified Nuclides ----

| Nuclide | Key-Line Activity (pCi/L) | K.L. Ided | Act error | MDA (pCi/L) | MDA error | Act/MDA |
|---------|---------------------------------|--------------|-----------|----------------|-----------|---------|
| BE-7 | -5.468E+00 | | 2.999E+01 | 5.046E+01 | 0.000E+00 | -0.108 |
| NA-24 | -2.528E+03 | | 1.306E+04 | 2.263E+04 | 0.000E+00 | -0.112 |
| CR-51 | 2.534E+00 | | 3.343E+01 | 5.716E+01 | 0.000E+00 | 0.044 |
| MN-54 | 1.597E-01 | | 3.246E+00 | 5.617E+00 | 0.000E+00 | 0.028 |
| CO-57 | -2.032E+00 | | 3.764E+00 | 6.252E+00 | 0.000E+00 | -0.325 |
| CO-58 | -3.570E-01 | | 3.293E+00 | 5.659E+00 | 0.000E+00 | -0.063 |
| FE-59 | 7.477E-01 | | 6.415E+00 | 1.139E+01 | 0.000E+00 | 0.066 |
| CO-60 | -1.009E+00 | | 3.090E+00 | 5.299E+00 | 0.000E+00 | -0.190 |
| ZN-65 | 6.460E+00 | | 7.378E+00 | 1.201E+01 | 0.000E+00 | 0.538 |
| SE-75 | -2.292E+00 | | 4.766E+00 | 8.029E+00 | 0.000E+00 | -0.285 |
| SR-85 | 1.835E+01 | | 4.084E+00 | 7.380E+00 | 0.000E+00 | 2.486 |
| Y-88 | -1.633E+00 | | 3.337E+00 | 5.699E+00 | 0.000E+00 | -0.287 |
| NB-94 | 1.427E+00 | | 3.099E+00 | 5.493E+00 | 0.000E+00 | 0.260 |
| NB-95 | 7.277E-01 | | 3.310E+00 | 5.802E+00 | 0.000E+00 | 0.125 |
| ZR-95 | -1.470E+00 | | 5.783E+00 | 9.867E+00 | 0.000E+00 | -0.149 |
| MO-99 | 1.236E+01 | | 1.532E+02 | 2.669E+02 | 0.000E+00 | 0.046 |
| RU-103 | 1.851E+00 | | 3.680E+00 | 6.308E+00 | 0.000E+00 | 0.293 |
| RU-106 | 3.167E+01 | | 2.969E+01 | 5.439E+01 | 0.000E+00 | 0.582 |
| AG-110m | 5.374E-01 | | 3.039E+00 | 5.335E+00 | 0.000E+00 | 0.101 |
| SN-113 | 2.806E+00 | | 4.302E+00 | 7.521E+00 | 0.000E+00 | 0.373 |
| SB-124 | 2.572E+00 | | 6.791E+00 | 5.540E+00 | 0.000E+00 | 0.464 |
| SB-125 | -4.012E-01 | | 8.977E+00 | 1.526E+01 | 0.000E+00 | -0.026 |
| TE-129M | -2.388E+01 | | 4.190E+01 | 6.930E+01 | 0.000E+00 | -0.345 |
| I-131 | 2.379E+00 | | 6.316E+00 | 1.077E+01 | 0.000E+00 | 0.221 |
| BA-133 | 7.658E+00 | | 5.466E+00 | 8.466E+00 | 0.000E+00 | 0.905 |
| CS-134 | 1.003E+01 | | 5.682E+00 | 6.933E+00 | 0.000E+00 | 1.446 |
| CS-136 | 7.147E-01 | | 4.447E+00 | 7.781E+00 | 0.000E+00 | 0.092 |
| CS-137 | -2.142E+00 | | 3.396E+00 | 5.686E+00 | 0.000E+00 | -0.377 |
| CE-139 | -1.602E+00 | | 3.755E+00 | 6.212E+00 | 0.000E+00 | -0.258 |
| BA-140 | 3.949E+00 | | 1.690E+01 | 2.902E+01 | 0.000E+00 | 0.136 |
| LA-140 | 4.716E+00 | | 5.197E+00 | 1.002E+01 | 0.000E+00 | 0.471 |
| CE-141 | 2.909E+00 | | 8.622E+00 | 1.239E+01 | 0.000E+00 | 0.235 |
| CE-144 | -4.697E+01 | | 3.475E+01 | 4.730E+01 | 0.000E+00 | -0.993 |
| EU-152 | 2.429E+00 | | 1.131E+01 | 1.656E+01 | 0.000E+00 | 0.147 |
| EU-154 | 1.179E+00 | | 7.774E+00 | 1.311E+01 | 0.000E+00 | 0.090 |
| AC-228 | -1.067E+00 | | 1.196E+01 | 2.093E+01 | 0.000E+00 | -0.051 |
| TH-232 | -1.064E+00 | | 1.193E+01 | 2.088E+01 | 0.000E+00 | -0.051 |
| U-235 | 4.615E+00 | | 3.439E+01 | 4.917E+01 | 0.000E+00 | 0.094 |
| U-238 | -1.104E+02 | | 3.214E+02 | 5.528E+02 | 0.000E+00 | -0.200 |
| AM-241 | -1.529E+00 | | 2.042E+01 | 3.364E+01 | 0.000E+00 | -0.045 |

A,23L28777-12 ,06/01/2006 20:35,05/25/2006 06:40, 3.467E+00,WG L28777-12 D
 B,23L28777-12 ,LIBD ,06/01/2006 10:14,2335L090704
 C,K-40 ,YES, 6.745E+01, 5.116E+01, 4.604E+01,, 1.465
 C,RA-226 ,YES, 3.042E+01, 7.564E+01, 1.471E+02,, 0.207
 C,TH-228 ,YES, 3.598E+00, 7.253E+00, 1.016E+01,, 0.354
 C,BE-7 ,NO , -5.468E+00, 2.999E+01, 5.046E+01,, -0.108
 C,NA-24 ,NO , -2.528E+03, 1.306E+04, 2.263E+04,, -0.112
 C,CR-51 ,NO , 2.534E+00, 3.343E+01, 5.716E+01,, 0.044
 C,MN-54 ,NO , 1.597E-01, 3.246E+00, 5.617E+00,, 0.028
 C,CO-57 ,NO , -2.032E+00, 3.764E+00, 6.252E+00,, -0.325
 C,CO-58 ,NO , -3.570E-01, 3.293E+00, 5.659E+00,, -0.063
 C,FE-59 ,NO , 7.477E-01, 6.415E+00, 1.139E+01,, 0.066
 C,CO-60 ,NO , -1.009E+00, 3.090E+00, 5.299E+00,, -0.190
 C,ZN-65 ,NO , 6.460E+00, 7.378E+00, 1.201E+01,, 0.538
 C,SE-75 ,NO , -2.292E+00, 4.766E+00, 8.029E+00,, -0.285
 C,SR-85 ,NO , 1.835E+01, 4.084E+00, 7.380E+00,, 2.486
 C,Y-88 ,NO , -1.633E+00, 3.337E+00, 5.699E+00,, -0.287
 C,NB-94 ,NO , 1.427E+00, 3.099E+00, 5.493E+00,, 0.260
 C,NB-95 ,NO , 7.277E-01, 3.310E+00, 5.802E+00,, 0.125
 C,ZR-95 ,NO , -1.470E+00, 5.783E+00, 9.867E+00,, -0.149
 C,MO-99 ,NO , 1.236E+01, 1.532E+02, 2.669E+02,, 0.046
 C,RU-103 ,NO , 1.851E+00, 3.680E+00, 6.308E+00,, 0.293
 C,RU-106 ,NO , 3.167E+01, 2.969E+01, 5.439E+01,, 0.582
 C,AG-110m ,NO , 5.374E-01, 3.039E+00, 5.335E+00,, 0.101
 C,SN-113 ,NO , 2.806E+00, 4.302E+00, 7.521E+00,, 0.373
 C,SB-124 ,NO , 2.572E+00, 6.791E+00, 5.540E+00,, 0.464
 C,SB-125 ,NO , -4.012E-01, 8.977E+00, 1.526E+01,, -0.026
 C,TE-129M ,NO , -2.388E+01, 4.190E+01, 6.930E+01,, -0.345
 C,I-131 ,NO , 2.379E+00, 6.316E+00, 1.077E+01,, 0.221
 C,BA-133 ,NO , 7.658E+00, 5.466E+00, 8.466E+00,, 0.905
 C,CS-134 ,NO , 1.003E+01, 5.682E+00, 6.933E+00,, 1.446
 C,CS-136 ,NO , 7.147E-01, 4.447E+00, 7.781E+00,, 0.092
 C,CS-137 ,NO , -2.142E+00, 3.396E+00, 5.686E+00,, -0.377
 C,CE-139 ,NO , -1.602E+00, 3.755E+00, 6.212E+00,, -0.258
 C,BA-140 ,NO , 3.949E+00, 1.690E+01, 2.902E+01,, 0.136
 C,LA-140 ,NO , 4.716E+00, 5.197E+00, 1.002E+01,, 0.471
 C,CE-141 ,NO , 2.909E+00, 8.622E+00, 1.239E+01,, 0.235
 C,CE-144 ,NO , -4.697E+01, 3.475E+01, 4.730E+01,, -0.993
 C,EU-152 ,NO , 2.429E+00, 1.131E+01, 1.656E+01,, 0.147
 C,EU-154 ,NO , 1.179E+00, 7.774E+00, 1.311E+01,, 0.090
 C,AC-228 ,NO , -1.067E+00, 1.196E+01, 2.093E+01,, -0.051
 C,TH-232 ,NO , -1.064E+00, 1.193E+01, 2.088E+01,, -0.051
 C,U-235 ,NO , 4.615E+00, 3.439E+01, 4.917E+01,, 0.094
 C,U-238 ,NO , -1.104E+02, 3.214E+02, 5.528E+02,, -0.200
 C,AM-241 ,NO , -1.529E+00, 2.042E+01, 3.364E+01,, -0.045

Sec. Review: Analyst: LIMS: ✓

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VAX/VMS Teledyne Brown Eng. Laboratory Gamma Report: 2-JUN-2006 03:59:16.13

TBE11 P-20610B HpGe ***** Aquisition Date/Time: 1-JUN-2006 17:58:57.88

LIMS No., Customer Name, Client ID: WG L28777-13 DRESDEN

| | | | |
|---------------|-----------------|---------------|-----------------------|
| Sample ID | : 11L28777-13 | Smple Date: | 25-MAY-2006 09:40:00. |
| Sample Type | : WG | Geometry | : 1135L090204 |
| Quantity | : 3.66220E+00 L | BKGFILE | : 11BG050506MT |
| Start Channel | : 40 | Energy Tol | : 1.00000 |
| End Channel | : 4090 | Pk Srch Sens: | 5.00000 |
| MDA Constant | : 0.00 | Library Used: | LIBD |
| | | Real Time | : 0 10:00:12.69 |
| | | Live time | : 0 10:00:00.00 |

| Pk | It | Energy | Area | Bkgnd | FWHM | Channel | %Eff | Cts/Sec | %Err | Fit |
|----|----|----------|------|-------|------|---------|----------|----------|-------|-----|
| 1 | 0 | 66.26 | 307 | 2391 | 1.24 | 131.99 | 6.01E-01 | 8.53E-03 | 29.3 | |
| 2 | 0 | 92.18* | 35 | 1041 | 1.27 | 184.09 | 1.27E+00 | 9.69E-04 | 180.6 | |
| 3 | 0 | 139.60 | 246 | 1004 | 1.29 | 279.36 | 1.69E+00 | 6.84E-03 | 24.1 | |
| 4 | 0 | 198.14* | 199 | 768 | 1.37 | 396.94 | 1.57E+00 | 5.54E-03 | 27.5 | |
| 5 | 0 | 238.88* | 11 | 1078 | 1.11 | 478.75 | 1.42E+00 | 3.02E-04 | 656.0 | |
| 6 | 0 | 294.87* | 101 | 650 | 1.33 | 591.16 | 1.23E+00 | 2.81E-03 | 53.6 | |
| 7 | 0 | 351.58* | 132 | 328 | 1.04 | 704.98 | 1.08E+00 | 3.67E-03 | 29.3 | |
| 8 | 0 | 432.86 | 35 | 365 | 0.91 | 868.06 | 9.18E-01 | 9.81E-04 | 113.0 | |
| 9 | 0 | 583.22* | 120 | 343 | 1.76 | 1169.56 | 7.27E-01 | 3.34E-03 | 40.2 | |
| 10 | 0 | 595.97 | 118 | 266 | 1.51 | 1195.12 | 7.14E-01 | 3.28E-03 | 30.0 | |
| 11 | 0 | 608.88* | 242 | 205 | 1.80 | 1220.99 | 7.03E-01 | 6.72E-03 | 15.3 | |
| 12 | 0 | 910.55* | 0 | 180 | 1.77 | 1825.10 | 5.14E-01 | 8.54E-06 | ***** | |
| 13 | 0 | 1007.82 | 36 | 80 | 1.50 | 2019.69 | 4.75E-01 | 1.00E-03 | 49.4 | |
| 14 | 0 | 1120.25* | 94 | 95 | 2.16 | 2244.48 | 4.37E-01 | 2.60E-03 | 28.9 | |
| 15 | 0 | 1461.02 | 304 | 49 | 2.41 | 2925.06 | 3.54E-01 | 8.45E-03 | 7.9 | |
| 16 | 0 | 1761.61* | 38 | 64 | 1.73 | 3524.39 | 3.04E-01 | 1.07E-03 | 54.4 | |

Flag: "*" = Peak area was modified by background subtraction

Nuclide Line Activity Report

Nuclide Type: natural

| Nuclide | Energy | Area | %Abn | %Eff | Uncorrected pCi/L | Decay Corr pCi/L | 2-Sigma %Error |
|---------|---------|-------|--------|-----------|----------------------|---------------------|-------------------|
| K-40 | 1460.81 | 304 | 10.67* | 3.539E-01 | 1.651E+02 | 1.651E+02 | 15.81 |
| AC-228 | 835.50 | ----- | 1.75 | 5.493E-01 | ----- | Line Not Found | ----- |
| | 911.07 | 0 | 27.70* | 5.138E-01 | 4.426E-02 | 4.437E-02 | 21771.96 |
| TH-228 | 238.63 | 11 | 44.60* | 1.420E+00 | 3.514E-01 | 3.540E-01 | 1311.93 |
| | 240.98 | ----- | 3.95 | 1.413E+00 | ----- | Line Not Found | ----- |
| TH-232 | 583.14 | 120 | 30.25 | 7.266E-01 | 1.123E+01 | 1.123E+01 | 80.44 |
| | 911.07 | 0 | 27.70* | 5.138E-01 | 4.426E-02 | 4.426E-02 | 21771.96 |
| | 969.11 | ----- | 16.60 | 4.895E-01 | ----- | Line Not Found | ----- |

Flag: "*" = Keyline

Summary of Nuclide Activity
 Sample ID : 11L28777-13

Page : 2
 Acquisition date : 1-JUN-2006 17:58:57

Total number of lines in spectrum 16
 Number of unidentified lines 12
 Number of lines tentatively identified by NID 4 25.00%

Nuclide Type : natural

| Nuclide | Hlife | Decay | Uncorrected pCi/L | Decay Corr pCi/L | Decay Corr 2-Sigma Error | 2-Sigma %Error | Flags |
|------------------|-----------|-------|----------------------|---------------------|-----------------------------|-------------------|-------|
| K-40 | 1.28E+09Y | 1.00 | 1.651E+02 | 1.651E+02 | 0.261E+02 | 15.81 | |
| AC-228 | 5.75Y | 1.00 | 4.426E-02 | 4.437E-02 | 966.1E-02 | 21771.96 | |
| TH-228 | 1.91Y | 1.01 | 3.514E-01 | 3.540E-01 | 46.45E-01 | 1311.93 | |
| TH-232 | 1.41E+10Y | 1.00 | 4.426E-02 | 4.426E-02 | 963.7E-02 | 21771.96 | |
| Total Activity : | | | 1.656E+02 | 1.656E+02 | | | |

Grand Total Activity : 1.656E+02 1.656E+02

Flags: "K" = Keyline not found
 "E" = Manually edited

"M" = Manually accepted
 "A" = Nuclide specific abn. limit

Page : 3

Unidentified Energy Lines
Sample ID : 11L28777-13

Acquisition date : 1-JUN-2006 17:58:57

| It | Energy | Area | Bkgnd | FWHM | Channel | Left | Pw | Cts/Sec | %Err | %Eff | Flags |
|----|---------|------|-------|------|---------|------|----|----------|------|----------|-------|
| 0 | 66.26 | 307 | 2391 | 1.24 | 131.99 | 128 | 9 | 8.53E-03 | 58.6 | 6.01E-01 | |
| 0 | 92.18 | 35 | 1041 | 1.27 | 184.09 | 180 | 9 | 9.69E-04 | **** | 1.27E+00 | |
| 0 | 139.60 | 246 | 1004 | 1.29 | 279.36 | 275 | 9 | 6.84E-03 | 48.1 | 1.69E+00 | |
| 0 | 198.14 | 199 | 768 | 1.37 | 396.94 | 393 | 9 | 5.54E-03 | 54.9 | 1.57E+00 | |
| 0 | 294.87 | 101 | 650 | 1.33 | 591.16 | 586 | 12 | 2.81E-03 | **** | 1.23E+00 | |
| 0 | 351.58 | 132 | 328 | 1.04 | 704.98 | 701 | 8 | 3.67E-03 | 58.7 | 1.08E+00 | |
| 0 | 432.86 | 35 | 365 | 0.91 | 868.06 | 861 | 13 | 9.81E-04 | **** | 9.18E-01 | |
| 0 | 595.97 | 118 | 266 | 1.51 | 1195.12 | 1189 | 13 | 3.28E-03 | 59.9 | 7.14E-01 | |
| 0 | 608.88 | 242 | 205 | 1.80 | 1220.99 | 1215 | 13 | 6.72E-03 | 30.6 | 7.03E-01 | |
| 0 | 1007.82 | 36 | 80 | 1.50 | 2019.69 | 2017 | 10 | 1.00E-03 | 98.8 | 4.75E-01 | |
| 0 | 1120.25 | 94 | 95 | 2.16 | 2244.48 | 2236 | 18 | 2.60E-03 | 57.8 | 4.37E-01 | |
| 0 | 1761.61 | 38 | 64 | 1.73 | 3524.39 | 3516 | 16 | 1.07E-03 | **** | 3.04E-01 | |

Flags: "T" = Tentatively associated

Summary of Nuclide Activity

Total number of lines in spectrum 16
 Number of unidentified lines 12
 Number of lines tentatively identified by NID 4 25.00%

Nuclide Type : natural

| Nuclide | Hlife | Decay | Wtd Mean Uncorrected pCi/L | Wtd Mean Decay Corr pCi/L | Decay Corr 2-Sigma Error | 2-Sigma %Error | Flags |
|------------------|-----------|-------|----------------------------------|---------------------------------|-----------------------------|-------------------|-------|
| K-40 | 1.28E+09Y | 1.00 | 1.651E+02 | 1.651E+02 | 0.261E+02 | 15.81 | |
| TH-228 | 1.91Y | 1.01 | 3.514E-01 | 3.540E-01 | 46.45E-01 | 1311.93 | |
| TH-232 | 1.41E+10Y | 1.00 | 5.998E+00 | 5.998E+00 | 6.591E+00 | 109.88 | |
| Total Activity : | | | 1.715E+02 | 1.715E+02 | | | |

Grand Total Activity : 1.715E+02 1.715E+02

Flags: "K" = Keyline not found "M" = Manually accepted
 "E" = Manually edited "A" = Nuclide specific abn. limit

Interference Report

| Interfering | | Interfered | |
|-------------|--------|------------|--------|
| Nuclide | Line | Nuclide | Line |
| TH-232 | 911.07 | AC-228 | 911.07 |

Combined Activity-MDA Report

---- Identified Nuclides ----

| Nuclide | Activity (pCi/L) | Act error | MDA (pCi/L) | MDA error | Act/MDA |
|---------|---------------------|-----------|----------------|-----------|---------|
| K-40 | 1.651E+02 | 2.611E+01 | 3.008E+01 | 0.000E+00 | 5.489 |
| TH-228 | 3.540E-01 | 4.645E+00 | 5.222E+00 | 0.000E+00 | 0.068 |

| | | | | | |
|--------|-----------|-----------|-----------|-----------|-------|
| TH-232 | 5.998E+00 | 6.591E+00 | 1.071E+01 | 0.000E+00 | 0.560 |
|--------|-----------|-----------|-----------|-----------|-------|

---- Non-Identified Nuclides ----

| Nuclide | Key-Line Activity (pCi/L) | K.L. Ided | Act error | MDA (pCi/L) | MDA error | Act/MDA |
|---------|---------------------------------|--------------|-----------|----------------|-----------|---------|
| BE-7 | 1.156E+00 | | 1.680E+01 | 2.802E+01 | 0.000E+00 | 0.041 |
| NA-24 | -4.700E+03 | | 8.791E+03 | 1.387E+04 | 0.000E+00 | -0.339 |
| CR-51 | -2.007E+01 | | 1.812E+01 | 2.924E+01 | 0.000E+00 | -0.687 |
| MN-54 | 1.128E+00 | | 1.870E+00 | 3.155E+00 | 0.000E+00 | 0.358 |
| CO-57 | -3.206E-01 | | 1.843E+00 | 2.981E+00 | 0.000E+00 | -0.108 |
| CO-58 | -7.094E-01 | | 1.953E+00 | 3.178E+00 | 0.000E+00 | -0.223 |
| FE-59 | 3.373E+00 | | 3.996E+00 | 6.853E+00 | 0.000E+00 | 0.492 |
| CO-60 | 1.076E-01 | | 1.959E+00 | 3.205E+00 | 0.000E+00 | 0.034 |
| ZN-65 | 5.726E+00 | | 4.826E+00 | 7.230E+00 | 0.000E+00 | 0.792 |
| SE-75 | -3.768E-01 | | 2.522E+00 | 4.081E+00 | 0.000E+00 | -0.092 |
| SR-85 | 1.626E+01 | | 2.241E+00 | 4.316E+00 | 0.000E+00 | 3.769 |
| Y-88 | -1.531E+00 | | 2.408E+00 | 3.831E+00 | 0.000E+00 | -0.400 |
| NB-94 | -8.750E-01 | | 1.728E+00 | 2.754E+00 | 0.000E+00 | -0.318 |
| NB-95 | 1.911E+00 | | 1.969E+00 | 3.379E+00 | 0.000E+00 | 0.566 |
| ZR-95 | 1.214E-01 | | 3.510E+00 | 5.829E+00 | 0.000E+00 | 0.021 |
| MO-99 | 1.734E+00 | | 8.859E+01 | 1.472E+02 | 0.000E+00 | 0.012 |
| RU-103 | 7.250E-01 | | 2.086E+00 | 3.501E+00 | 0.000E+00 | 0.207 |
| RU-106 | -9.000E+00 | | 1.753E+01 | 2.781E+01 | 0.000E+00 | -0.324 |
| AG-110m | -5.781E-01 | | 1.824E+00 | 2.944E+00 | 0.000E+00 | -0.196 |
| SN-113 | 1.007E+00 | | 2.503E+00 | 4.148E+00 | 0.000E+00 | 0.243 |
| SB-124 | 3.020E+00 | | 4.067E+00 | 3.165E+00 | 0.000E+00 | 0.954 |
| SB-125 | -4.318E+00 | | 6.344E+00 | 8.461E+00 | 0.000E+00 | -0.510 |
| TE-129M | 5.928E+00 | | 2.419E+01 | 3.961E+01 | 0.000E+00 | 0.150 |
| I-131 | 2.585E+00 | | 3.505E+00 | 5.878E+00 | 0.000E+00 | 0.440 |
| BA-133 | 2.325E+00 | | 2.981E+00 | 4.275E+00 | 0.000E+00 | 0.544 |
| CS-134 | 1.014E+01 | | 3.892E+00 | 3.659E+00 | 0.000E+00 | 2.772 |
| CS-136 | -1.377E+00 | | 2.613E+00 | 4.217E+00 | 0.000E+00 | -0.326 |
| CS-137 | -6.335E-01 | | 2.014E+00 | 3.250E+00 | 0.000E+00 | -0.195 |
| CE-139 | 1.044E-01 | | 1.798E+00 | 2.983E+00 | 0.000E+00 | 0.035 |
| BA-140 | 8.990E+00 | | 9.400E+00 | 1.603E+01 | 0.000E+00 | 0.561 |
| LA-140 | 2.085E+00 | | 3.072E+00 | 5.258E+00 | 0.000E+00 | 0.396 |
| CE-141 | 2.986E+00 | | 3.906E+00 | 5.649E+00 | 0.000E+00 | 0.529 |
| CE-144 | -1.855E+01 | | 1.674E+01 | 2.231E+01 | 0.000E+00 | -0.831 |
| EU-152 | -4.955E+00 | | 6.838E+00 | 9.293E+00 | 0.000E+00 | -0.533 |
| EU-154 | -1.234E+00 | | 3.852E+00 | 6.213E+00 | 0.000E+00 | -0.199 |
| RA-226 | 3.220E+01 | | 4.615E+01 | 7.471E+01 | 0.000E+00 | 0.431 |
| AC-228 | 4.437E-02 | | 9.661E+00 | 1.270E+01 | 0.000E+00 | 0.003 |
| U-235 | 1.927E+01 | | 1.543E+01 | 2.259E+01 | 0.000E+00 | 0.853 |
| U-238 | -9.553E+01 | | 2.549E+02 | 3.310E+02 | 0.000E+00 | -0.289 |
| AM-241 | -1.621E+01 | | 2.480E+01 | 3.611E+01 | 0.000E+00 | -0.449 |

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A,11L28777-13      ,06/02/2006 03:59,05/25/2006 09:40,      3.662E+00,WG L28777-13 D
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C,K-40      ,YES,      1.651E+02,      2.611E+01,      3.008E+01,,      5.489
C,TH-228      ,YES,      3.540E-01,      4.645E+00,      5.222E+00,,      0.068
C,TH-232      ,YES,      5.998E+00,      6.591E+00,      1.071E+01,,      0.560
C,BE-7      ,NO ,      1.156E+00,      1.680E+01,      2.802E+01,,      0.041
C,NA-24      ,NO ,      -4.700E+03,      8.791E+03,      1.387E+04,,      -0.339
C,CR-51      ,NO ,      -2.007E+01,      1.812E+01,      2.924E+01,,      -0.687
C,MN-54      ,NO ,      1.128E+00,      1.870E+00,      3.155E+00,,      0.358
C,CO-57      ,NO ,      -3.206E-01,      1.843E+00,      2.981E+00,,      -0.108
C,CO-58      ,NO ,      -7.094E-01,      1.953E+00,      3.178E+00,,      -0.223
C,FE-59      ,NO ,      3.373E+00,      3.996E+00,      6.853E+00,,      0.492
C,CO-60      ,NO ,      1.076E-01,      1.959E+00,      3.205E+00,,      0.034
C,ZN-65      ,NO ,      5.726E+00,      4.826E+00,      7.230E+00,,      0.792
C,SE-75      ,NO ,      -3.768E-01,      2.522E+00,      4.081E+00,,      -0.092
C,SR-85      ,NO ,      1.626E+01,      2.241E+00,      4.316E+00,,      3.769
C,Y-88      ,NO ,      -1.531E+00,      2.408E+00,      3.831E+00,,      -0.400
C,NB-94      ,NO ,      -8.750E-01,      1.728E+00,      2.754E+00,,      -0.318
C,NB-95      ,NO ,      1.911E+00,      1.969E+00,      3.379E+00,,      0.566
C,ZR-95      ,NO ,      1.214E-01,      3.510E+00,      5.829E+00,,      0.021
C,MO-99      ,NO ,      1.734E+00,      8.859E+01,      1.472E+02,,      0.012
C,RU-103      ,NO ,      7.250E-01,      2.086E+00,      3.501E+00,,      0.207
C,RU-106      ,NO ,      -9.000E+00,      1.753E+01,      2.781E+01,,      -0.324
C,AG-110m      ,NO ,      -5.781E-01,      1.824E+00,      2.944E+00,,      -0.196
C,SN-113      ,NO ,      1.007E+00,      2.503E+00,      4.148E+00,,      0.243
C,SB-124      ,NO ,      3.020E+00,      4.067E+00,      3.165E+00,,      0.954
C,SB-125      ,NO ,      -4.318E+00,      6.344E+00,      8.461E+00,,      -0.510
C,TE-129M      ,NO ,      5.928E+00,      2.419E+01,      3.961E+01,,      0.150
C,I-131      ,NO ,      2.585E+00,      3.505E+00,      5.878E+00,,      0.440
C,BA-133      ,NO ,      2.325E+00,      2.981E+00,      4.275E+00,,      0.544
C,CS-134      ,NO ,      1.014E+01,      3.892E+00,      3.659E+00,,      2.772
C,CS-136      ,NO ,      -1.377E+00,      2.613E+00,      4.217E+00,,      -0.326
C,CS-137      ,NO ,      -6.335E-01,      2.014E+00,      3.250E+00,,      -0.195
C,CE-139      ,NO ,      1.044E-01,      1.798E+00,      2.983E+00,,      0.035
C,BA-140      ,NO ,      8.990E+00,      9.400E+00,      1.603E+01,,      0.561
C,LA-140      ,NO ,      2.085E+00,      3.072E+00,      5.258E+00,,      0.396
C,CE-141      ,NO ,      2.986E+00,      3.906E+00,      5.649E+00,,      0.529
C,CE-144      ,NO ,      -1.855E+01,      1.674E+01,      2.231E+01,,      -0.831
C,EU-152      ,NO ,      -4.955E+00,      6.838E+00,      9.293E+00,,      -0.533
C,EU-154      ,NO ,      -1.234E+00,      3.852E+00,      6.213E+00,,      -0.199
C,RA-226      ,NO ,      3.220E+01,      4.615E+01,      7.471E+01,,      0.431
C,AC-228      ,NO ,      4.437E-02,      9.661E+00,      1.270E+01,,      0.003
C,U-235      ,NO ,      1.927E+01,      1.543E+01,      2.259E+01,,      0.853
C,U-238      ,NO ,      -9.553E+01,      2.549E+02,      3.310E+02,,      -0.289
C,AM-241      ,NO ,      -1.621E+01,      2.480E+01,      3.611E+01,,      -0.449

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Sec. Review: Analyst: LIMS: ✓

VAX/VMS Teledyne Brown Eng. Laboratory Gamma Report: 2-JUN-2006 04:53:49.11
TBE10 12892256 HpGe ***** Aquisition Date/Time: 1-JUN-2006 18:53:36.50

LIMS No., Customer Name, Client ID: WG L28777-14 DRESDEN

Sample ID : 10L28777-14 Smple Date: 25-MAY-2006 11:09:00.
Sample Type : WG Geometry : 1035L091004
Quantity : 3.59360E+00 L BKGFILE : 10BG050506MT
Start Channel : 80 Energy Tol : 1.00000 Real Time : 0 10:00:06.10
End Channel : 4090 Pk Srch Sens: 5.00000 Live time : 0 10:00:00.00
MDA Constant : 0.00 Library Used: LIBD

| Pk | It | Energy | Area | Bkgnd | FWHM | Channel | %Eff | Cts/Sec | %Err | Fit |
|----|----|----------|------|-------|------|---------|----------|----------|-------|----------|
| 1 | 1 | 66.35* | 256 | 1208 | 1.43 | 132.16 | 6.35E-01 | 7.12E-03 | 26.8 | 5.95E-01 |
| 2 | 1 | 92.78* | 85 | 1364 | 1.69 | 185.04 | 1.30E+00 | 2.36E-03 | 87.3 | 1.50E+00 |
| 3 | 1 | 139.96 | 285 | 1100 | 1.44 | 279.43 | 1.68E+00 | 7.92E-03 | 21.8 | 8.42E-01 |
| 4 | 1 | 185.79* | 59 | 799 | 1.36 | 371.14 | 1.59E+00 | 1.63E-03 | 92.1 | 1.24E+00 |
| 5 | 1 | 198.16* | 236 | 971 | 1.61 | 395.88 | 1.55E+00 | 6.57E-03 | 28.1 | 1.05E+00 |
| 6 | 1 | 238.69* | 45 | 610 | 1.15 | 476.98 | 1.40E+00 | 1.25E-03 | 110.2 | 5.17E-01 |
| 7 | 1 | 294.85* | 43 | 520 | 1.55 | 589.35 | 1.21E+00 | 1.19E-03 | 105.4 | 4.24E+00 |
| 8 | 1 | 352.07* | 189 | 460 | 1.43 | 703.85 | 1.07E+00 | 5.25E-03 | 26.0 | 1.19E+00 |
| 9 | 1 | 582.73* | 198 | 222 | 1.18 | 1165.42 | 7.19E-01 | 5.49E-03 | 18.2 | 4.42E+01 |
| 10 | 1 | 595.94 | 76 | 228 | 1.61 | 1191.86 | 7.06E-01 | 2.11E-03 | 39.2 | 2.52E+00 |
| 11 | 1 | 609.58* | 269 | 228 | 1.72 | 1219.17 | 6.94E-01 | 7.48E-03 | 14.6 | 1.75E+00 |
| 12 | 1 | 969.76* | 19 | 106 | 3.86 | 1940.01 | 4.83E-01 | 5.28E-04 | 126.9 | 1.64E+00 |
| 13 | 1 | 1120.73* | 76 | 78 | 1.97 | 2242.20 | 4.33E-01 | 2.11E-03 | 28.8 | 1.17E+00 |
| 14 | 1 | 1461.73* | 43 | 99 | 2.23 | 2924.79 | 3.56E-01 | 1.19E-03 | 72.7 | 2.32E+00 |
| 15 | 1 | 1765.14* | 44 | 43 | 2.73 | 3532.23 | 3.13E-01 | 1.23E-03 | 44.9 | 1.73E+00 |

Flag: "*" = Peak area was modified by background subtraction

Nuclide Line Activity Report

Nuclide Type: natural

| Nuclide | Energy | Area | %Abn | %Eff | Uncorrected pCi/L | Decay Corr pCi/L | 2-Sigma %Error |
|---------|---------|-------|--------|-----------|-------------------|------------------|----------------|
| K-40 | 1460.81 | 43 | 10.67* | 3.557E-01 | 2.352E+01 | 2.352E+01 | 145.37 |
| RA-226 | 186.21 | 59 | 3.28* | 1.594E+00 | 2.339E+01 | 2.339E+01 | 184.30 |
| TH-228 | 238.63 | 45 | 44.60* | 1.400E+00 | 1.501E+00 | 1.512E+00 | 220.36 |
| | 240.98 | ----- | 3.95 | 1.392E+00 | ----- | Line Not Found | ----- |
| TH-232 | 583.14 | 198 | 30.25 | 7.187E-01 | 1.899E+01 | 1.899E+01 | 36.31 |
| | 911.07 | ----- | 27.70* | 5.070E-01 | ----- | Line Not Found | ----- |
| | 969.11 | 19 | 16.60 | 4.831E-01 | 4.956E+00 | 4.956E+00 | 253.86 |
| U-235 | 143.76 | ----- | 10.50* | 1.683E+00 | ----- | Line Not Found | ----- |
| | 163.35 | ----- | 4.70 | 1.659E+00 | ----- | Line Not Found | ----- |
| | 185.71 | 59 | 54.00 | 1.594E+00 | 1.421E+00 | 1.421E+00 | 184.30 |
| | 205.31 | ----- | 4.70 | 1.524E+00 | ----- | Line Not Found | ----- |

Flag: "*" = Keyline

Summary of Nuclide Activity
 Sample ID : 10L28777-14

Acquisition date : 1-JUN-2006 18:53:36

Total number of lines in spectrum 15
 Number of unidentified lines 10
 Number of lines tentatively identified by NID 5 33.33%

Nuclide Type : natural

| Nuclide | Hlife | Decay | Uncorrected pCi/L | Decay Corr pCi/L | Decay Corr 2-Sigma Error | 2-Sigma %Error | Flags |
|------------------|-----------|-------|----------------------|---------------------|-----------------------------|-------------------|-------|
| K-40 | 1.28E+09Y | 1.00 | 2.352E+01 | 2.352E+01 | 3.420E+01 | 145.37 | |
| RA-226 | 1600.00Y | 1.00 | 2.339E+01 | 2.339E+01 | 4.311E+01 | 184.30 | |
| TH-228 | 1.91Y | 1.01 | 1.501E+00 | 1.512E+00 | 3.332E+00 | 220.36 | |
| TH-232 | 1.41E+10Y | 1.00 | 1.899E+01 | 1.899E+01 | 0.690E+01 | 36.31 | K |
| U-235 | 7.04E+08Y | 1.00 | 1.421E+00 | 1.421E+00 | 2.619E+00 | 184.30 | K |
| Total Activity : | | | 6.883E+01 | 6.884E+01 | | | |

Grand Total Activity : 6.883E+01 6.884E+01

Flags: "K" = Keyline not found
 "E" = Manually edited

"M" = Manually accepted
 "A" = Nuclide specific abn. limit

Unidentified Energy Lines
Sample ID : 10L28777-14

Acquisition date : 1-JUN-2006 18:53:36

| It | Energy | Area | Bkgnd | FWHM | Channel | Left | Pw | Cts/Sec | %Err | %Eff | Flags |
|----|---------|------|-------|------|---------|------|----|----------|------|----------|-------|
| 1 | 66.35 | 256 | 1208 | 1.43 | 132.16 | 128 | 9 | 7.12E-03 | 53.7 | 6.35E-01 | |
| 1 | 92.78 | 85 | 1364 | 1.69 | 185.04 | 181 | 10 | 2.36E-03 | **** | 1.30E+00 | |
| 1 | 139.96 | 285 | 1100 | 1.44 | 279.43 | 275 | 9 | 7.92E-03 | 43.5 | 1.68E+00 | |
| 1 | 198.16 | 236 | 971 | 1.61 | 395.88 | 392 | 11 | 6.57E-03 | 56.2 | 1.55E+00 | |
| 1 | 294.85 | 43 | 520 | 1.55 | 589.35 | 586 | 9 | 1.19E-03 | **** | 1.21E+00 | |
| 1 | 352.07 | 189 | 460 | 1.43 | 703.85 | 699 | 11 | 5.25E-03 | 52.1 | 1.07E+00 | |
| 1 | 595.94 | 76 | 228 | 1.61 | 1191.86 | 1188 | 10 | 2.11E-03 | 78.4 | 7.06E-01 | |
| 1 | 609.58 | 269 | 228 | 1.72 | 1219.17 | 1213 | 12 | 7.48E-03 | 29.2 | 6.94E-01 | |
| 1 | 1120.73 | 76 | 78 | 1.97 | 2242.20 | 2237 | 12 | 2.11E-03 | 57.7 | 4.33E-01 | |
| 1 | 1765.14 | 44 | 43 | 2.73 | 3532.23 | 3523 | 19 | 1.23E-03 | 89.8 | 3.13E-01 | |

Flags: "T" = Tentatively associated

Summary of Nuclide Activity

| | | |
|---|----|--------|
| Total number of lines in spectrum | 15 | |
| Number of unidentified lines | 10 | |
| Number of lines tentatively identified by NID | 5 | 33.33% |

Nuclide Type : natural

| Nuclide | Hlife | Decay | Wtd Mean Uncorrected pCi/L | Wtd Mean Decay Corr pCi/L | Decay Corr 2-Sigma Error | 2-Sigma %Error | Flags |
|------------------|-----------|-------|----------------------------------|---------------------------------|-----------------------------|-------------------|-------|
| K-40 | 1.28E+09Y | 1.00 | 2.352E+01 | 2.352E+01 | 3.420E+01 | 145.37 | |
| RA-226 | 1600.00Y | 1.00 | 2.339E+01 | 2.339E+01 | 4.311E+01 | 184.30 | |
| TH-228 | 1.91Y | 1.01 | 1.501E+00 | 1.512E+00 | 3.332E+00 | 220.36 | |
| TH-232 | 1.41E+10Y | 1.00 | 1.575E+01 | 1.575E+01 | 0.605E+01 | 38.40 | |
| Total Activity : | | | 6.417E+01 | 6.418E+01 | | | |

Grand Total Activity : 6.417E+01 6.418E+01

Flags: "K" = Keyline not found "M" = Manually accepted
"E" = Manually edited "A" = Nuclide specific abn. limit

Interference Report

No interference correction performed

Combined Activity-MDA Report


---- Identified Nuclides ----

| Nuclide | Activity (pCi/L) | Act error | MDA (pCi/L) | MDA error | Act/MDA |
|---------|---------------------|-----------|----------------|-----------|---------|
| K-40 | 2.352E+01 | 3.420E+01 | 3.098E+01 | 0.000E+00 | 0.759 |
| RA-226 | 2.339E+01 | 4.311E+01 | 8.147E+01 | 0.000E+00 | 0.287 |
| TH-228 | 1.512E+00 | 3.332E+00 | 6.047E+00 | 0.000E+00 | 0.250 |
| TH-232 | 1.575E+01 | 6.047E+00 | 1.198E+01 | 0.000E+00 | 1.315 |

---- Non-Identified Nuclides ----

| Nuclide | Key-Line Activity (pCi/L) | K.L. Ided | Act error | MDA (pCi/L) | MDA error | Act/MDA |
|---------|---------------------------------|--------------|-----------|----------------|-----------|---------|
| BE-7 | 1.756E+00 | | 1.792E+01 | 2.926E+01 | 0.000E+00 | 0.060 |
| NA-24 | -1.483E+04 | | 8.855E+03 | 1.302E+04 | 0.000E+00 | -1.139 |
| CR-51 | -1.462E+01 | | 2.009E+01 | 3.261E+01 | 0.000E+00 | -0.448 |
| MN-54 | -5.980E-01 | | 2.000E+00 | 3.222E+00 | 0.000E+00 | -0.186 |
| CO-57 | -3.001E-01 | | 2.124E+00 | 3.491E+00 | 0.000E+00 | -0.086 |
| CO-58 | 2.589E+00 | | 2.033E+00 | 3.489E+00 | 0.000E+00 | 0.742 |
| FE-59 | -1.567E+00 | | 3.953E+00 | 6.384E+00 | 0.000E+00 | -0.245 |
| CO-60 | -6.553E-01 | | 1.918E+00 | 3.063E+00 | 0.000E+00 | -0.214 |
| ZN-65 | 6.949E+00 | | 5.238E+00 | 7.851E+00 | 0.000E+00 | 0.885 |
| SE-75 | -7.342E-01 | | 2.782E+00 | 4.592E+00 | 0.000E+00 | -0.160 |
| SR-85 | 1.727E+01 | | 2.332E+00 | 4.504E+00 | 0.000E+00 | 3.835 |
| Y-88 | -1.085E+00 | | 2.111E+00 | 3.327E+00 | 0.000E+00 | -0.326 |
| NB-94 | 3.034E-01 | | 1.924E+00 | 3.178E+00 | 0.000E+00 | 0.095 |
| NB-95 | -2.425E-01 | | 2.028E+00 | 3.304E+00 | 0.000E+00 | -0.073 |
| ZR-95 | 2.240E+00 | | 3.602E+00 | 6.042E+00 | 0.000E+00 | 0.371 |
| MO-99 | 5.907E+01 | | 9.724E+01 | 1.631E+02 | 0.000E+00 | 0.362 |
| RU-103 | 1.815E+00 | | 2.257E+00 | 3.758E+00 | 0.000E+00 | 0.483 |
| RU-106 | -2.771E+01 | | 1.893E+01 | 2.837E+01 | 0.000E+00 | -0.977 |
| AG-110m | -3.635E-01 | | 1.903E+00 | 3.113E+00 | 0.000E+00 | -0.117 |
| SN-113 | 1.089E+00 | | 2.690E+00 | 4.456E+00 | 0.000E+00 | 0.244 |
| SB-124 | 1.650E+00 | | 4.698E+00 | 3.351E+00 | 0.000E+00 | 0.493 |
| SB-125 | -3.261E+00 | | 5.701E+00 | 9.166E+00 | 0.000E+00 | -0.356 |
| TE-129M | 1.748E+01 | | 2.612E+01 | 4.340E+01 | 0.000E+00 | 0.403 |
| I-131 | 6.275E-02 | | 3.853E+00 | 6.252E+00 | 0.000E+00 | 0.010 |
| BA-133 | 1.301E+01 | | 3.406E+00 | 5.315E+00 | 0.000E+00 | 2.447 |
| CS-134 | 1.037E+01 | | 4.487E+00 | 3.947E+00 | 0.000E+00 | 2.626 |
| CS-136 | -1.852E+00 | | 2.827E+00 | 4.489E+00 | 0.000E+00 | -0.412 |
| CS-137 | -1.125E+00 | | 2.087E+00 | 3.369E+00 | 0.000E+00 | -0.334 |
| CE-139 | -1.362E+00 | | 2.147E+00 | 3.477E+00 | 0.000E+00 | -0.392 |
| BA-140 | 8.927E+00 | | 1.014E+01 | 1.728E+01 | 0.000E+00 | 0.517 |
| LA-140 | 1.379E+00 | | 3.254E+00 | 5.498E+00 | 0.000E+00 | 0.251 |
| CE-141 | 2.166E+00 | | 4.840E+00 | 6.777E+00 | 0.000E+00 | 0.320 |
| CE-144 | 5.565E+00 | | 1.897E+01 | 2.654E+01 | 0.000E+00 | 0.210 |
| EU-152 | -9.108E+00 | | 7.655E+00 | 1.018E+01 | 0.000E+00 | -0.895 |
| EU-154 | -9.951E-01 | | 4.397E+00 | 7.218E+00 | 0.000E+00 | -0.138 |
| AC-228 | -1.588E+00 | | 7.581E+00 | 1.201E+01 | 0.000E+00 | -0.132 |
| U-235 | 1.920E+01 | | 1.971E+01 | 2.764E+01 | 0.000E+00 | 0.694 |
| U-238 | 2.921E+01 | | 2.084E+02 | 3.467E+02 | 0.000E+00 | 0.084 |
| AM-241 | 6.878E+00 | | 2.143E+01 | 2.956E+01 | 0.000E+00 | 0.233 |

A,10L28777-14 ,06/02/2006 04:53,05/25/2006 11:09, 3.594E+00,WG L28777-14 D
 B,10L28777-14 ,LIBD ,06/01/2006 08:22,1035L091004
 C,K-40 ,YES, 2.352E+01, 3.420E+01, 3.098E+01,, 0.759
 C,RA-226 ,YES, 2.339E+01, 4.311E+01, 8.147E+01,, 0.287
 C,TH-228 ,YES, 1.512E+00, 3.332E+00, 6.047E+00,, 0.250
 C,TH-232 ,YES, 1.575E+01, 6.047E+00, 1.198E+01,, 1.315
 C,BE-7 ,NO , 1.756E+00, 1.792E+01, 2.926E+01,, 0.060
 C,NA-24 ,NO , -1.483E+04, 8.855E+03, 1.302E+04,, -1.139
 C,CR-51 ,NO , -1.462E+01, 2.009E+01, 3.261E+01,, -0.448
 C,MN-54 ,NO , -5.980E-01, 2.000E+00, 3.222E+00,, -0.186
 C,CO-57 ,NO , -3.001E-01, 2.124E+00, 3.491E+00,, -0.086
 C,CO-58 ,NO , 2.589E+00, 2.033E+00, 3.489E+00,, 0.742
 C,FE-59 ,NO , -1.567E+00, 3.953E+00, 6.384E+00,, -0.245
 C,CO-60 ,NO , -6.553E-01, 1.918E+00, 3.063E+00,, -0.214
 C,ZN-65 ,NO , 6.949E+00, 5.238E+00, 7.851E+00,, 0.885
 C,SE-75 ,NO , -7.342E-01, 2.782E+00, 4.592E+00,, -0.160
 C,SR-85 ,NO , 1.727E+01, 2.332E+00, 4.504E+00,, 3.835
 C,Y-88 ,NO , -1.085E+00, 2.111E+00, 3.327E+00,, -0.326
 C,NB-94 ,NO , 3.034E-01, 1.924E+00, 3.178E+00,, 0.095
 C,NB-95 ,NO , -2.425E-01, 2.028E+00, 3.304E+00,, -0.073
 C,ZR-95 ,NO , 2.240E+00, 3.602E+00, 6.042E+00,, 0.371
 C,MO-99 ,NO , 5.907E+01, 9.724E+01, 1.631E+02,, 0.362
 C,RU-103 ,NO , 1.815E+00, 2.257E+00, 3.758E+00,, 0.483
 C,RU-106 ,NO , -2.771E+01, 1.893E+01, 2.837E+01,, -0.977
 C,AG-110m ,NO , -3.635E-01, 1.903E+00, 3.113E+00,, -0.117
 C,SN-113 ,NO , 1.089E+00, 2.690E+00, 4.456E+00,, 0.244
 C,SB-124 ,NO , 1.650E+00, 4.698E+00, 3.351E+00,, 0.493
 C,SB-125 ,NO , -3.261E+00, 5.701E+00, 9.166E+00,, -0.356
 C,TE-129M ,NO , 1.748E+01, 2.612E+01, 4.340E+01,, 0.403
 C,I-131 ,NO , 6.275E-02, 3.853E+00, 6.252E+00,, 0.010
 C,BA-133 ,NO , 1.301E+01, 3.406E+00, 5.315E+00,, 2.447
 C,CS-134 ,NO , 1.037E+01, 4.487E+00, 3.947E+00,, 2.626
 C,CS-136 ,NO , -1.852E+00, 2.827E+00, 4.489E+00,, -0.412
 C,CS-137 ,NO , -1.125E+00, 2.087E+00, 3.369E+00,, -0.334
 C,CE-139 ,NO , -1.362E+00, 2.147E+00, 3.477E+00,, -0.392
 C,BA-140 ,NO , 8.927E+00, 1.014E+01, 1.728E+01,, 0.517
 C,LA-140 ,NO , 1.379E+00, 3.254E+00, 5.498E+00,, 0.251
 C,CE-141 ,NO , 2.166E+00, 4.840E+00, 6.777E+00,, 0.320
 C,CE-144 ,NO , 5.565E+00, 1.897E+01, 2.654E+01,, 0.210
 C,EU-152 ,NO , -9.108E+00, 7.655E+00, 1.018E+01,, -0.895
 C,EU-154 ,NO , -9.951E-01, 4.397E+00, 7.218E+00,, -0.138
 C,AC-228 ,NO , -1.588E+00, 7.581E+00, 1.201E+01,, -0.132
 C,U-235 ,NO , 1.920E+01, 1.971E+01, 2.764E+01,, 0.694
 C,U-238 ,NO , 2.921E+01, 2.084E+02, 3.467E+02,, 0.084
 C,AM-241 ,NO , 6.878E+00, 2.143E+01, 2.956E+01,, 0.233

Sec. Review: Analyst: LIMS: 

VAX/VMS Teledyne Brown Eng. Laboratory Gamma Report: 2-JUN-2006 11:12:26.57
TBE04 P-40312B HpGe ***** Aquisition Date/Time: 2-JUN-2006 09:10:41.38

LIMS No., Customer Name, Client ID: L28777-15 WG EXELON/DRES

Sample ID : 04L28777-15
Sample Type : WG
Quantity : 3.58990E+00 L
Start Channel : 90 Energy Tol : 1.00000
End Channel : 4090 Pk Srch Sens: 5.00000
MDA Constant : 0.00 Library Used: LIBD

Smple Date: 25-MAY-2006 14:45:00.
Geometry : 0435L090804
BKGFILE : 04BG050506MT
Real Time : 0 02:01:41.89
Live time : 0 02:01:40.55

| Pk | It | Energy | Area | Bkgnd | FWHM | Channel | %Eff | Cts/Sec | %Err | Fit |
|----|----|----------|------|-------|------|---------|----------|----------|-------|----------|
| 1 | 3 | 76.87* | 39 | 143 | 0.91 | 154.20 | 9.83E-01 | 5.34E-03 | 54.7 | 9.44E+00 |
| 2 | 1 | 84.67* | 10 | 192 | 1.79 | 169.79 | 1.20E+00 | 1.36E-03 | 258.9 | 2.33E+00 |
| 3 | 1 | 139.65* | 65 | 243 | 2.34 | 279.75 | 1.82E+00 | 8.92E-03 | 46.9 | 1.91E+00 |
| 4 | 1 | 237.38 | 37 | 252 | 1.14 | 475.18 | 1.53E+00 | 5.03E-03 | 90.8 | 5.18E+00 |
| 5 | 1 | 295.30* | 69 | 127 | 1.59 | 590.99 | 1.32E+00 | 9.45E-03 | 35.0 | 3.44E+00 |
| 6 | 1 | 351.95* | 135 | 46 | 1.39 | 704.25 | 1.17E+00 | 1.85E-02 | 12.7 | 2.86E+00 |
| 7 | 1 | 359.96 | 35 | 42 | 1.50 | 720.27 | 1.15E+00 | 4.86E-03 | 38.3 | |
| 8 | 1 | 583.46* | 19 | 35 | 1.98 | 1167.17 | 7.99E-01 | 2.59E-03 | 67.1 | 1.33E+00 |
| 9 | 1 | 595.54 | 44 | 55 | 1.87 | 1191.30 | 7.87E-01 | 5.99E-03 | 34.6 | 3.13E+00 |
| 10 | 1 | 609.24* | 129 | 65 | 1.46 | 1218.70 | 7.73E-01 | 1.76E-02 | 16.1 | 1.72E+00 |
| 11 | 1 | 1120.98* | 49 | 11 | 3.95 | 2241.74 | 4.81E-01 | 6.67E-03 | 21.5 | 1.81E+00 |
| 12 | 1 | 1460.60* | 2 | 22 | 1.84 | 2920.57 | 3.92E-01 | 2.22E-04 | 755.7 | 1.22E+00 |
| 13 | 1 | 1764.22* | 40 | 7 | 2.97 | 3527.36 | 3.43E-01 | 5.43E-03 | 22.6 | 4.86E-01 |

Flag: "*" = Peak area was modified by background subtraction

Nuclide Line Activity Report

Nuclide Type: natural

| Nuclide | Energy | Area | %Abn | %Eff | Uncorrected pCi/L | Decay Corr pCi/L | 2-Sigma %Error |
|---------|---------|------|--------|-----------|----------------------|---------------------|-------------------|
| K-40 | 1460.81 | 2 | 10.67* | 3.921E-01 | 3.997E+00 | 3.997E+00 | 1511.43 |

Flag: "*" = Keyline

Summary of Nuclide Activity
 Sample ID : 04L28777-15

Acquisition date : 2-JUN-2006 09:10:41

| | | |
|---|----|--------|
| Total number of lines in spectrum | 13 | |
| Number of unidentified lines | 11 | |
| Number of lines tentatively identified by NID | 2 | 15.38% |

Nuclide Type : natural

| Nuclide | Hlife | Decay | Uncorrected pCi/L | Decay Corr pCi/L | Decay Corr 2-Sigma Error | 2-Sigma %Error | Flags |
|------------------|-----------|-------|----------------------|---------------------|-----------------------------|-------------------|-------|
| K-40 | 1.28E+09Y | 1.00 | 3.997E+00 | 3.997E+00 | 60.41E+00 | 1511.43 | |
| Total Activity : | | | 3.997E+00 | 3.997E+00 | | | |

Grand Total Activity : 3.997E+00 3.997E+00

Flags: "K" = Keyline not found
 "E" = Manually edited

"M" = Manually accepted
 "A" = Nuclide specific abn. limit

Unidentified Energy Lines
Sample ID : 04L28777-15

Acquisition date : 2-JUN-2006 09:10:41

| It | Energy | Area | Bkgnd | FWHM | Channel | Left | Pw | Cts/Sec | %Err | %Eff | Flags |
|----|---------|------|-------|------|---------|------|----|----------|------|----------|-------|
| 3 | 76.87 | 39 | 143 | 0.91 | 154.20 | 147 | 10 | 5.34E-03 | **** | 9.83E-01 | |
| 1 | 84.67 | 10 | 192 | 1.79 | 169.79 | 166 | 8 | 1.36E-03 | **** | 1.20E+00 | |
| 1 | 139.65 | 65 | 243 | 2.34 | 279.75 | 275 | 10 | 8.92E-03 | 93.7 | 1.82E+00 | |
| 1 | 237.38 | 37 | 252 | 1.14 | 475.18 | 472 | 13 | 5.03E-03 | **** | 1.53E+00 | |
| 1 | 295.30 | 69 | 127 | 1.59 | 590.99 | 585 | 11 | 9.45E-03 | 69.9 | 1.32E+00 | |
| 1 | 351.95 | 135 | 46 | 1.39 | 704.25 | 697 | 39 | 1.85E-02 | 25.3 | 1.17E+00 | |
| 1 | 359.96 | 35 | 42 | 1.50 | 720.27 | 697 | 39 | 4.86E-03 | 76.5 | 1.15E+00 | |
| 1 | 583.46 | 19 | 35 | 1.98 | 1167.17 | 1164 | 11 | 2.59E-03 | **** | 7.99E-01 | T |
| 1 | 595.54 | 44 | 55 | 1.87 | 1191.30 | 1189 | 11 | 5.99E-03 | 69.3 | 7.87E-01 | |
| 1 | 609.24 | 129 | 65 | 1.46 | 1218.70 | 1213 | 13 | 1.76E-02 | 32.2 | 7.73E-01 | |
| 1 | 1120.98 | 49 | 11 | 3.95 | 2241.74 | 2234 | 15 | 6.67E-03 | 42.9 | 4.81E-01 | |
| 1 | 1764.22 | 40 | 7 | 2.97 | 3527.36 | 3520 | 14 | 5.43E-03 | 45.2 | 3.43E-01 | |

Flags: "T" = Tentatively associated

Summary of Nuclide Activity

Total number of lines in spectrum 13
 Number of unidentified lines 11
 Number of lines tentatively identified by NID 2 15.38%

Nuclide Type : natural

| Nuclide | Hlife | Decay | Wtd Mean Uncorrected pCi/L | Wtd Mean Decay Corr pCi/L | Decay Corr 2-Sigma Error | 2-Sigma %Error | Flags |
|------------------|-----------|-------|----------------------------------|---------------------------------|-----------------------------|-------------------|-------|
| K-40 | 1.28E+09Y | 1.00 | 3.997E+00 | 3.997E+00 | 60.41E+00 | 1511.43 | |
| Total Activity : | | | 3.997E+00 | 3.997E+00 | | | |

Grand Total Activity : 3.997E+00 3.997E+00

Flags: "K" = Keyline not found
 "E" = Manually edited

"M" = Manually accepted
 "A" = Nuclide specific abn. limit

Interference Report

No interference correction performed

Combined Activity-MDA Report

---- Identified Nuclides ----

| Nuclide | Activity (pCi/L) | Act error | MDA (pCi/L) | MDA error | Act/MDA |
|---------|---------------------|-----------|----------------|-----------|---------|
| K-40 | 3.997E+00 | 6.041E+01 | 6.029E+01 | 0.000E+00 | 0.066 |

---- Non-Identified Nuclides ----

| Nuclide | Key-Line Activity (pCi/L) | K.L. Ided | Act error | MDA (pCi/L) | MDA error | Act/MDA |
|---------|---------------------------------|--------------|-----------|----------------|-----------|---------|
|---------|---------------------------------|--------------|-----------|----------------|-----------|---------|

| | | | | | |
|---------|------------|-----------|---------------------|-----------|--------|
| BE-7 | 1.519E+01 | 3.303E+01 | 5.633E+01 | 0.000E+00 | 0.270 |
| NA-24 | -2.455E-02 | 1.305E-02 | Half-Life too short | | |
| CR-51 | -1.011E+01 | 3.771E+01 | 6.117E+01 | 0.000E+00 | -0.165 |
| MN-54 | -1.316E+00 | 3.263E+00 | 5.083E+00 | 0.000E+00 | -0.259 |
| CO-57 | -1.824E+00 | 3.579E+00 | 5.880E+00 | 0.000E+00 | -0.310 |
| CO-58 | -4.038E+00 | 4.128E+00 | 6.131E+00 | 0.000E+00 | -0.659 |
| FE-59 | 6.793E+00 | 8.021E+00 | 1.427E+01 | 0.000E+00 | 0.476 |
| CO-60 | 3.846E+00 | 4.497E+00 | 8.399E+00 | 0.000E+00 | 0.458 |
| ZN-65 | 1.057E+01 | 1.070E+01 | 1.671E+01 | 0.000E+00 | 0.633 |
| SE-75 | -7.344E-01 | 5.002E+00 | 8.265E+00 | 0.000E+00 | -0.089 |
| SR-85 | 1.561E+01 | 4.627E+00 | 8.920E+00 | 0.000E+00 | 1.750 |
| Y-88 | -2.598E+00 | 4.414E+00 | 6.545E+00 | 0.000E+00 | -0.397 |
| NB-94 | 2.930E+00 | 3.937E+00 | 6.855E+00 | 0.000E+00 | 0.427 |
| NB-95 | 4.244E+00 | 3.975E+00 | 7.113E+00 | 0.000E+00 | 0.597 |
| ZR-95 | -8.401E+00 | 6.831E+00 | 9.893E+00 | 0.000E+00 | -0.849 |
| MO-99 | 5.774E+01 | 2.002E+02 | 3.377E+02 | 0.000E+00 | 0.171 |
| RU-103 | -1.067E+00 | 4.241E+00 | 6.870E+00 | 0.000E+00 | -0.155 |
| RU-106 | -1.400E+01 | 3.647E+01 | 5.637E+01 | 0.000E+00 | -0.248 |
| AG-110m | 1.270E+00 | 3.645E+00 | 6.219E+00 | 0.000E+00 | 0.204 |
| SN-113 | 2.134E+00 | 5.236E+00 | 8.722E+00 | 0.000E+00 | 0.245 |
| SB-124 | -7.276E+00 | 1.072E+01 | 6.233E+00 | 0.000E+00 | -1.167 |
| SB-125 | -3.995E+00 | 1.065E+01 | 1.731E+01 | 0.000E+00 | -0.231 |
| TE-129M | 1.216E+01 | 4.714E+01 | 7.946E+01 | 0.000E+00 | 0.153 |
| I-131 | -3.072E-01 | 8.361E+00 | 1.152E+01 | 0.000E+00 | -0.027 |
| BA-133 | 1.207E+01 | 5.688E+00 | 1.030E+01 | 0.000E+00 | 1.171 |
| CS-134 | 9.460E+00 | 9.639E+00 | 8.582E+00 | 0.000E+00 | 1.102 |
| CS-136 | 5.090E+00 | 5.253E+00 | 9.370E+00 | 0.000E+00 | 0.543 |
| CS-137 | 1.801E+00 | 3.890E+00 | 6.698E+00 | 0.000E+00 | 0.269 |
| CE-139 | 3.438E+00 | 3.852E+00 | 6.571E+00 | 0.000E+00 | 0.523 |
| BA-140 | 1.609E+01 | 2.031E+01 | 3.520E+01 | 0.000E+00 | 0.457 |
| LA-140 | 7.644E-01 | 6.572E+00 | 1.104E+01 | 0.000E+00 | 0.069 |
| CE-141 | 2.329E+00 | 8.488E+00 | 1.224E+01 | 0.000E+00 | 0.190 |
| CE-144 | -1.762E+01 | 3.251E+01 | 4.502E+01 | 0.000E+00 | -0.391 |
| EU-152 | 3.938E+00 | 1.339E+01 | 1.907E+01 | 0.000E+00 | 0.206 |
| EU-154 | -1.249E+00 | 7.430E+00 | 1.236E+01 | 0.000E+00 | -0.101 |
| RA-226 | 1.020E+01 | 9.216E+01 | 1.544E+02 | 0.000E+00 | 0.066 |
| AC-228 | 4.756E-01 | 1.429E+01 | 2.488E+01 | 0.000E+00 | 0.019 |
| TH-228 | 6.656E+00 | 7.613E+00 | 1.317E+01 | 0.000E+00 | 0.506 |
| TH-232 | 4.744E-01 | 1.425E+01 | 2.481E+01 | 0.000E+00 | 0.019 |
| U-235 | 7.791E+00 | 3.341E+01 | 4.809E+01 | 0.000E+00 | 0.162 |
| U-238 | -8.973E+01 | 3.922E+02 | 6.303E+02 | 0.000E+00 | -0.142 |
| AM-241 | -3.742E+01 | 3.316E+01 | 5.255E+01 | 0.000E+00 | -0.712 |

A,04L28777-15 ,06/02/2006 11:12,05/25/2006 14:45, 3.590E+00,L28777-15 WG E
 B,04L28777-15 ,LIBD ,06/02/2006 09:04,0435L090804
 C,K-40 ,YES, 3.997E+00, 6.041E+01, 6.029E+01,, 0.066
 C,BE-7 ,NO , 1.519E+01, 3.303E+01, 5.633E+01,, 0.270
 C,CR-51 ,NO , -1.011E+01, 3.771E+01, 6.117E+01,, -0.165
 C,MN-54 ,NO , -1.316E+00, 3.263E+00, 5.083E+00,, -0.259
 C,CO-57 ,NO , -1.824E+00, 3.579E+00, 5.880E+00,, -0.310
 C,CO-58 ,NO , -4.038E+00, 4.128E+00, 6.131E+00,, -0.659
 C,FE-59 ,NO , 6.793E+00, 8.021E+00, 1.427E+01,, 0.476
 C,CO-60 ,NO , 3.846E+00, 4.497E+00, 8.399E+00,, 0.458
 C,ZN-65 ,NO , 1.057E+01, 1.070E+01, 1.671E+01,, 0.633
 C,SE-75 ,NO , -7.344E-01, 5.002E+00, 8.265E+00,, -0.089
 C,SR-85 ,NO , 1.561E+01, 4.627E+00, 8.920E+00,, 1.750
 C,Y-88 ,NO , -2.598E+00, 4.414E+00, 6.545E+00,, -0.397
 C,NB-94 ,NO , 2.930E+00, 3.937E+00, 6.855E+00,, 0.427
 C,NB-95 ,NO , 4.244E+00, 3.975E+00, 7.113E+00,, 0.597
 C,ZR-95 ,NO , -8.401E+00, 6.831E+00, 9.893E+00,, -0.849
 C,MO-99 ,NO , 5.774E+01, 2.002E+02, 3.377E+02,, 0.171
 C,RU-103 ,NO , -1.067E+00, 4.241E+00, 6.870E+00,, -0.155
 C,RU-106 ,NO , -1.400E+01, 3.647E+01, 5.637E+01,, -0.248
 C,AG-110m ,NO , 1.270E+00, 3.645E+00, 6.219E+00,, 0.204
 C,SN-113 ,NO , 2.134E+00, 5.236E+00, 8.722E+00,, 0.245
 C,SB-124 ,NO , -7.276E+00, 1.072E+01, 6.233E+00,, -1.167
 C,SB-125 ,NO , -3.995E+00, 1.065E+01, 1.731E+01,, -0.231
 C,TE-129M ,NO , 1.216E+01, 4.714E+01, 7.946E+01,, 0.153
 C,I-131 ,NO , -3.072E-01, 8.361E+00, 1.152E+01,, -0.027
 C,BA-133 ,NO , 1.207E+01, 5.688E+00, 1.030E+01,, 1.171
 C,CS-134 ,NO , 9.460E+00, 9.639E+00, 8.582E+00,, 1.102
 C,CS-136 ,NO , 5.090E+00, 5.253E+00, 9.370E+00,, 0.543
 C,CS-137 ,NO , 1.801E+00, 3.890E+00, 6.698E+00,, 0.269
 C,CE-139 ,NO , 3.438E+00, 3.852E+00, 6.571E+00,, 0.523
 C,BA-140 ,NO , 1.609E+01, 2.031E+01, 3.520E+01,, 0.457
 C,LA-140 ,NO , 7.644E-01, 6.572E+00, 1.104E+01,, 0.069
 C,CE-141 ,NO , 2.329E+00, 8.488E+00, 1.224E+01,, 0.190
 C,CE-144 ,NO , -1.762E+01, 3.251E+01, 4.502E+01,, -0.391
 C,EU-152 ,NO , 3.938E+00, 1.339E+01, 1.907E+01,, 0.206
 C,EU-154 ,NO , -1.249E+00, 7.430E+00, 1.236E+01,, -0.101
 C,RA-226 ,NO , 1.020E+01, 9.216E+01, 1.544E+02,, 0.066
 C,AC-228 ,NO , 4.756E-01, 1.429E+01, 2.488E+01,, 0.019
 C,TH-228 ,NO , 6.656E+00, 7.613E+00, 1.317E+01,, 0.506
 C,TH-232 ,NO , 4.744E-01, 1.425E+01, 2.481E+01,, 0.019
 C,U-235 ,NO , 7.791E+00, 3.341E+01, 4.809E+01,, 0.162
 C,U-238 ,NO , -8.973E+01, 3.922E+02, 6.303E+02,, -0.142
 C,AM-241 ,NO , -3.742E+01, 3.316E+01, 5.255E+01,, -0.712



2508 Quality Lane
Knoxville, TN 37931
865-690-6819 (Phone)

Work Order #: L28851

Exelon - Dresden

June 21, 2006



TELEDYNE
BROWN ENGINEERING, INC.

A Teledyne Technologies Company
2508 Quality Lane
Knoxville, TN 37931-3133

Kathy Shaw
Conestoga-Rovers & Associates
45 Farmington Valley Road
Plainville CT 06062

Case Narrative - L28851
EX001-3ESPDRES-06

06/21/2006 11:18

Sample Receipt

The following samples were received on June 7, 2006 in good condition, unless otherwise noted.

Cross Reference Table

| Client ID | Laboratory ID | Station ID(if applicable) |
|--------------------------------|---------------|---------------------------|
| WG-DN-DSP-149R-053106-JH-019 | L28851-1 | |
| WG-DN-DSP-149R-053106-JH-020 | L28851-2 | |
| WS-DN-SW-103-053106-JH-021 | L28851-3 | |
| WG-DN-DSP-159S-053106-JH-022 | L28851-4 | |
| WS-DN-SW-101-053106-JH-023 | L28851-5 | |
| WS-DN-SW-102-053106-JH-024 | L28851-6 | |
| WS-DN-SW-105-060106-JH-025 | L28851-7 | |
| WS-DN-SW-104-060106-JH-026 | L28851-8 | |
| WS-DN-SW-106-060106-JH-027 | L28851-9 | |
| WS-DN-SW-106-060106-JH-028 | L28851-10 | |
| WG-DN-MW-DN-110S-053006-JL-067 | L28851-11 | |
| WG-DN-MW-DN-110I-053006-JL-068 | L28851-12 | |
| WG-DN-MW-DN-104S-053006-JL-069 | L28851-13 | |
| WG-DN-MW-DN-109I-053106-JL-070 | L28851-14 | |
| WG-DN-MW-DN-109I-053106-JL-071 | L28851-15 | |
| WG-DN-MW-DN-109S-053106-JL-072 | L28851-16 | |
| WG-DN-MW-DN-111S-053106-JL-073 | L28851-17 | |
| WG-DN-MW-DN-107S-053106-JL-074 | L28851-18 | |

Analytical Method Cross Reference Table

| Radiological Parameter | TBE Knoxville Method | Reference Method |
|------------------------|----------------------|------------------|
| Gamma Spectrometry | TBE-2007 | EPA 901.1 |
| H-3 | TBE-2010 | EPA 906.0 |
| TOTAL SR | TBE-2018 | EPA 905.0 |



TELEDYNE
BROWN ENGINEERING, INC.
A Teledyne Technologies Company
2508 Quality Lane
Knoxville, TN 37931-3133

Case Narrative - L28851
EX001-3ESPDRES-06

06/21/2006 11:18

Gamma Spectroscopy

Quality Control

Quality control samples were analyzed as WG4124.

Duplicate Sample

Duplicates were analyzed for the following samples. All duplicate results were within acceptance limits, unless otherwise noted.

| <u>Client ID</u> | <u>Laboratory ID</u> | <u>QC Sample #</u> |
|----------------------------------|----------------------|--------------------|
| WG-DN-DSP-149R- 053106-JH-019 | L28851-1 | WG4124-1 |

H-3

Quality Control

Quality control samples were analyzed as WG4115, WG4122.

Method Blank

All blanks were within acceptance limits, unless otherwise noted.

Laboratory Control Sample

All laboratory control samples were within acceptance limits, unless otherwise noted.

Duplicate Sample

Duplicates were analyzed for the following samples. All duplicate results were within acceptance limits, unless otherwise noted.

| <u>Client ID</u> | <u>Laboratory ID</u> | <u>QC Sample #</u> |
|------------------------------------|----------------------|--------------------|
| WG-TMI-1D-060106- JC-021 | L28841-3 | WG4115-3 |
| WG-DN-MW-DN-110S- 053006-JL-067 | L28851-11 | WG4122-3 |



Case Narrative - L28851
EX001-3ESPDRES-06

06/21/2006 11:18

TOTAL SR

Quality Control

Quality control samples were analyzed as WG4161.

Method Blank

All blanks were within acceptance limits, unless otherwise noted.

Laboratory Control Sample

All laboratory control samples were within acceptance limits, unless otherwise noted.

Duplicate Sample

Duplicates were analyzed for the following samples. All duplicate results were within acceptance limits, unless otherwise noted.

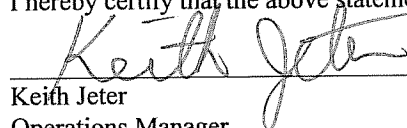
| <u>Client ID</u> | <u>Laboratory ID</u> | <u>QC Sample #</u> |
|----------------------------------|----------------------|--------------------|
| WG-DN-DSP-149R- 053106-JH-019 | L28851-1 | WG4161-3 |

Certification

This is to certify that Teledyne Brown Engineering - Environmental Services, located at 2508 Quality Lane, Knoxville, Tennessee, 37931, has analyzed, tested and documented samples as specified in the applicable purchase order.

This also certifies that requirements of applicable codes, standards and specifications have been fully met and that any quality assurance documentation which verified conformance to the purchase order is on file and may be examined upon request.

I hereby certify that the above statements are true and correct.



Keith Jeter
Operations Manager

Sample Receipt Summary

Teledyne Brown Engineering
Sample Receipt Verification/Variance Report

06/07/06 12:32

SR #: SR08746

Client: Exelon

Project #: EX001-3ESPDRES-06

LIMS #: L28853

Initiated By: BWILKERSON

Init Date: 06/07/06 Receive Date: 06/07/06

Notification of Variance

Person Notified:

Contacted By:

Notify Date:

Notify Method:

Notify Comment:

Client Response

Person Responding:

Response Date:

Response Method:

Response Comment

| Criteria | Yes | No | NA | Comment |
|--|-----|----|----|------------------|
| 1 Shipping container custody seals present and intact. | | | NA | |
| 2 Sample container custody seals present and intact. | | | NA | |
| 3 Sample containers received in good condition | | Y | | |
| 4 Chain of custody received with samples | | Y | | |
| 5 All samples listed on chain of custody received | | Y | | |
| 6 Sample container labels present and legible. | | Y | | |
| 7 Information on container labels correspond with chain of custody | | Y | | |
| 8 Sample(s) properly preserved and in appropriate container(s) | | Y | | Ph at or below 2 |
| 9 Other (Describe) | | | NA | |

L 28851

L28851 8 of 145

L28851

CONESTOGA-ROVERS & ASSOCIATES



8615 W. Bryn Mawr Avenue
Chicago, Illinois 60631
(773)380-9933 phone
(773)380-6421 fax

SHIPPED TO
(Laboratory Name):

Teledyne Brown

REFERENCE NUMBER:

45136-23

PROJECT NAME:

Dresden Generating Station

CHAIN-OF-CUSTODY RECORD

SAMPLER'S
SIGNATURE:

PRINTED
NAME:

Julie Lutzwick

PARAMETERS

Tritium
Strontium 90
Cesium 137

REMARKS

| SEQ. No. | DATE | TIME | SAMPLE IDENTIFICATION No. | SAMPLE MATRIX | No. OF CONTAINERS | PARAMETERS | REMARKS |
|----------------------------|---------|------|--------------------------------|------------------|----------------------|------------|---------|
| | 5/31/06 | 1015 | NG-DN-MW-DN-109I-DS3106-JL-070 | W | 2 | X X X | |
| | | 1025 | WG-DN-MW-DN-109I-DS3106-JL-071 | W | 2 | X X X | |
| | | 1145 | WG-DN-MW-DN-109S-DS3106-JL-072 | W | 2 | X X X | |
| | | 1400 | WG-DN-MW-DN-111S-DS3106-JL-073 | W | 2 | X X X | |
| | | 1530 | WG-DN-MW-DN-107S-DS3106-JL-074 | W | 2 | X X X | |
| TOTAL NUMBER OF CONTAINERS | | | | | 10 | | |

RELINQUISHED BY:

①

DATE: 5/31/06

TIME:

RECEIVED BY:

②

DATE: 5-31-06

TIME: 1625

RELINQUISHED BY:

②

DATE: 6-5-06

TIME: 1345

RECEIVED BY:

③

DATE:

TIME:

RELINQUISHED BY:

③

DATE:

TIME:

RECEIVED BY:

④

DATE:

TIME:

METHOD OF SHIPMENT:

AIR BILL No.

White - Fully Executed Copy
Yellow - Receiving Laboratory Copy
Pink - Shipper Copy
Goldenrod - Sampler Copy

SAMPLE TEAM:

Julie L.
Nick H.

RECEIVED FOR LABORATORY BY:

12772

DATE: 6-7-06 TIME: 8 AM

Internal Chain of Custody

06/21/06 11:18

Teledyne Brown Engineering

Internal Chain of Custody

Sample # L28851-1 Containernum 1

| | |
|--------------|---------|
| Prod | Analyst |
| GELI | DW |
| H-3 | SO |
| SR-90 (FAST) | LCB |

| | | | |
|------------------|---------------|-------------|------------------|
| Relinquish Date | Relinquish By | Received By | |
| 06/07/2006 00:00 | | 099999 | Sample Custodian |
| 06/09/2006 11:34 | 099999 | 029709 | Susan Ogletree |

Sample # L28851-1 Containernum 2

| | |
|--------------|---------|
| Prod | Analyst |
| GELI | DW |
| H-3 | SO |
| SR-90 (FAST) | LCB |

| | | | |
|------------------|---------------|-------------|------------------|
| Relinquish Date | Relinquish By | Received By | |
| 06/07/2006 00:00 | | 099999 | Sample Custodian |

Sample # L28851-2 Containernum 1

| | |
|--------------|---------|
| Prod | Analyst |
| GELI | DW |
| H-3 | SO |
| SR-90 (FAST) | LCB |

| | | | |
|------------------|---------------|-------------|------------------|
| Relinquish Date | Relinquish By | Received By | |
| 06/07/2006 00:00 | | 099999 | Sample Custodian |
| 06/09/2006 11:34 | 099999 | 029709 | Susan Ogletree |

Sample # L28851-2 Containernum 2

| | |
|--------------|---------|
| Prod | Analyst |
| GELI | DW |
| H-3 | SO |
| SR-90 (FAST) | LCB |

| | | | |
|------------------|---------------|-------------|------------------|
| Relinquish Date | Relinquish By | Received By | |
| 06/07/2006 00:00 | | 099999 | Sample Custodian |

Sample # L28851-3 Containernum 1

| | |
|--------------|---------|
| Prod | Analyst |
| GELI | DW |
| H-3 | EJ |
| SR-90 (FAST) | LCB |

| | | | |
|------------------|---------------|-------------|------------------|
| Relinquish Date | Relinquish By | Received By | |
| 06/07/2006 00:00 | | 099999 | Sample Custodian |
| 06/09/2006 11:34 | 099999 | 029709 | Susan Ogletree |

Sample # L28851-3 Containernum 2

| | |
|------|---------|
| Prod | Analyst |
| GELI | DW |
| H-3 | EJ |

06/21/06 11:18

Teledyne Brown Engineering
Internal Chain of Custody

Sample # L28851-3 Containernum 2

SR-90 (FAST) LCB

| | | | |
|------------------|---------------|-------------|------------------|
| Relinquish Date | Relinquish By | Received By | |
| 06/07/2006 00:00 | | 099999 | Sample Custodian |

Sample # L28851-4 Containernum 1

Prod Analyst

GELI DW

H-3 EJ

SR-90 (FAST) LCB

| | | | |
|------------------|---------------|------------------|-----------------------|
| Relinquish Date | Relinquish By | Received By | |
| 06/07/2006 00:00 | | 099999 | Sample Custodian |
| 06/09/2006 11:34 | 099999 | Sample Custodian | 029709 Susan Ogletree |

Sample # L28851-4 Containernum 2

Prod Analyst

GELI DW

H-3 EJ

SR-90 (FAST) LCB

| | | | |
|------------------|---------------|-------------|------------------|
| Relinquish Date | Relinquish By | Received By | |
| 06/07/2006 00:00 | | 099999 | Sample Custodian |

Sample # L28851-5 Containernum 1

Prod Analyst

GELI DW

H-3 EJ

SR-90 (FAST) LCB

| | | | |
|------------------|---------------|------------------|-----------------------|
| Relinquish Date | Relinquish By | Received By | |
| 06/07/2006 00:00 | | 099999 | Sample Custodian |
| 06/09/2006 11:34 | 099999 | Sample Custodian | 029709 Susan Ogletree |

Sample # L28851-5 Containernum 2

Prod Analyst

GELI DW

H-3 EJ

SR-90 (FAST) LCB

| | | | |
|------------------|---------------|-------------|------------------|
| Relinquish Date | Relinquish By | Received By | |
| 06/07/2006 00:00 | | 099999 | Sample Custodian |

Sample # L28851-6 Containernum 1

Prod Analyst

GELI DW

H-3 EJ

SR-90 (FAST) LCB

| | | | |
|------------------|---------------|-------------|------------------|
| Relinquish Date | Relinquish By | Received By | |
| 06/07/2006 00:00 | | 099999 | Sample Custodian |

06/21/06 11:18

Teledyne Brown Engineering
Internal Chain of Custody

Sample # L28851-6 Containernum 1

| | | | |
|------------------|--------|------------------|----------------------------|
| Relinquish Date | | | Received By |
| 06/09/2006 11:34 | 099999 | Sample Custodian | 029709 Susan Ogletree |

Sample # L28851-6 Containernum 2

| | |
|--------------|---------|
| Prod | Analyst |
| GELI | DW |
| H-3 | EJ |
| SR-90 (FAST) | LCB |

| | | |
|------------------|---------------|------------------------------|
| Relinquish Date | Relinquish By | Received By |
| 06/07/2006 00:00 | | 099999 Sample Custodian |

Sample # L28851-7 Containernum 1

| | |
|--------------|---------|
| Prod | Analyst |
| GELI | DW |
| H-3 | EJ |
| SR-90 (FAST) | LCB |

| | | |
|------------------|---------------|--|
| Relinquish Date | Relinquish By | Received By |
| 06/07/2006 00:00 | | 099999 Sample Custodian |
| 06/09/2006 11:34 | 099999 | Sample Custodian 029709 Susan Ogletree |

Sample # L28851-7 Containernum 2

| | |
|--------------|---------|
| Prod | Analyst |
| GELI | DW |
| H-3 | EJ |
| SR-90 (FAST) | LCB |

| | | |
|------------------|---------------|------------------------------|
| Relinquish Date | Relinquish By | Received By |
| 06/07/2006 00:00 | | 099999 Sample Custodian |

Sample # L28851-8 Containernum 1

| | |
|--------------|---------|
| Prod | Analyst |
| GELI | DW |
| H-3 | EJ |
| SR-90 (FAST) | LCB |

| | | |
|------------------|---------------|--|
| Relinquish Date | Relinquish By | Received By |
| 06/07/2006 00:00 | | 099999 Sample Custodian |
| 06/09/2006 11:34 | 099999 | Sample Custodian 029709 Susan Ogletree |

Sample # L28851-8 Containernum 2

| | |
|--------------|---------|
| Prod | Analyst |
| GELI | DW |
| H-3 | EJ |
| SR-90 (FAST) | LCB |

| | | |
|------------------|---------------|------------------------------|
| Relinquish Date | Relinquish By | Received By |
| 06/07/2006 00:00 | | 099999 Sample Custodian |

Sample # L28851-9 Containernum 1

| | |
|------|---------|
| Prod | Analyst |
|------|---------|

Sample # L28851-9 Containernum 1

GELI DW
H-3 EJ
SR-90 (FAST) LCB

| Relinquish Date | Relinquish By | Received By | Sample Custodian |
|------------------|---------------|-------------|------------------|
| 06/07/2006 00:00 | | 099999 | |
| 06/09/2006 11:34 | 099999 | 029709 | Susan Ogletree |

Sample # L28851-9 Containernum 2

Prod Analyst
GELI DW
H-3 EJ
SR-90 (FAST) LCB

| Relinquish Date | Relinquish By | Received By | Sample Custodian |
|------------------|---------------|-------------|------------------|
| 06/07/2006 00:00 | | 099999 | |

Sample # L28851-10 Containernum 1

Prod Analyst
GELI DW
H-3 EJ
SR-90 (FAST) LCB

| Relinquish Date | Relinquish By | Received By | Sample Custodian |
|------------------|---------------|-------------|------------------|
| 06/07/2006 00:00 | | 099999 | |
| 06/09/2006 11:34 | 099999 | 029709 | Susan Ogletree |

Sample # L28851-10 Containernum 2

Prod Analyst
GELI DW
H-3 EJ
SR-90 (FAST) LCB

| Relinquish Date | Relinquish By | Received By | Sample Custodian |
|------------------|---------------|-------------|------------------|
| 06/07/2006 00:00 | | 099999 | |

Sample # L28851-11 Containernum 1

Prod Analyst
GELI DW
H-3 EJ
SR-90 (FAST) LCB

| Relinquish Date | Relinquish By | Received By | Sample Custodian |
|------------------|---------------|-------------|------------------|
| 06/07/2006 00:00 | | 099999 | |
| 06/09/2006 11:34 | 099999 | 029709 | Susan Ogletree |

Sample # L28851-11 Containernum 2

Prod Analyst
GELI DW
H-3 EJ

06/21/06 11:18

Teledyne Brown Engineering
Internal Chain of Custody*****
Sample # L28851-11 Containernum 2

SR-90 (FAST) LCB

Relinquish Date Relinquish By
06/07/2006 00:00Received By
099999 Sample Custodian*****
Sample # L28851-12 Containernum 1Prod Analyst
GELI DW
H-3 EJ
SR-90 (FAST) LCBRelinquish Date Relinquish By
06/07/2006 00:00Received By
099999 Sample Custodian
029709 Susan Ogletree

06/09/2006 11:34 099999 Sample Custodian

Sample # L28851-12 Containernum 2Prod Analyst
GELI DW
H-3 EJ
SR-90 (FAST) LCBRelinquish Date Relinquish By
06/07/2006 00:00Received By
099999 Sample Custodian*****
Sample # L28851-13 Containernum 1Prod Analyst
GELI DW
H-3 EJ
SR-90 (FAST) LCBRelinquish Date Relinquish By
06/07/2006 00:00Received By
099999 Sample Custodian
029709 Susan Ogletree

06/09/2006 11:34 099999 Sample Custodian

Sample # L28851-13 Containernum 2Prod Analyst
GELI DW
H-3 EJ
SR-90 (FAST) LCBRelinquish Date Relinquish By
06/07/2006 00:00Received By
099999 Sample Custodian*****
Sample # L28851-14 Containernum 1Prod Analyst
GELI DW
H-3 EJ
SR-90 (FAST) LCBRelinquish Date Relinquish By
06/07/2006 00:00Received By
099999 Sample Custodian

06/21/06 11:18

Teledyne Brown Engineering

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Internal Chain of Custody

Sample # L28851-14 Containernum 1

Relinquish Date Received By
06/09/2006 11:34 099999 Sample Custodian 029709 Susan Ogletree

Sample # L28851-14 Containernum 2

Prod Analyst
GELI DW
H-3 EJ
SR-90 (FAST) LCB

Relinquish Date Relinquish By Received By
06/07/2006 00:00 099999 Sample Custodian

Sample # L28851-15 Containernum 1

Prod Analyst
GELI DW
H-3 EJ
SR-90 (FAST) LCB

Relinquish Date Relinquish By Received By
06/07/2006 00:00 099999 Sample Custodian
06/09/2006 11:34 099999 Sample Custodian 029709 Susan Ogletree

Sample # L28851-15 Containernum 2

Prod Analyst
GELI DW
H-3 EJ
SR-90 (FAST) LCB

Relinquish Date Relinquish By Received By
06/07/2006 00:00 099999 Sample Custodian

Sample # L28851-16 Containernum 1

Prod Analyst
GELI DW
H-3 EJ
SR-90 (FAST) LCB

Relinquish Date Relinquish By Received By
06/07/2006 00:00 099999 Sample Custodian
06/09/2006 11:34 099999 Sample Custodian 029709 Susan Ogletree

Sample # L28851-16 Containernum 2

Prod Analyst
GELI DW
H-3 EJ
SR-90 (FAST) LCB

Relinquish Date Relinquish By Received By
06/07/2006 00:00 099999 Sample Custodian

Sample # L28851-17 Containernum 1

Prod Analyst

06/21/06 11:18

Teledyne Brown Engineering

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Internal Chain of Custody

Sample # L28851-17 Containernum 1

GELI DW
H-3 EJ
SR-90 (FAST) LCB

| Relinquish Date | Relinquish By | Received By | Sample Custodian |
|------------------|---------------|-------------|------------------|
| 06/07/2006 00:00 | | 099999 | |
| 06/09/2006 11:34 | 099999 | 029709 | Susan Ogletree |

Sample # L28851-17 Containernum 2

Prod Analyst
GELI DW
H-3 EJ
SR-90 (FAST) LCB

| Relinquish Date | Relinquish By | Received By | Sample Custodian |
|------------------|---------------|-------------|------------------|
| 06/07/2006 00:00 | | 099999 | |

Sample # L28851-18 Containernum 1

Prod Analyst
GELI DW
H-3 EJ
SR-90 (FAST) LCB

| Relinquish Date | Relinquish By | Received By | Sample Custodian |
|------------------|---------------|-------------|------------------|
| 06/07/2006 00:00 | | 099999 | |
| 06/09/2006 11:34 | 099999 | 029709 | Susan Ogletree |

Sample # L28851-18 Containernum 2

Prod Analyst
GELI DW
H-3 EJ
SR-90 (FAST) LCB

| Relinquish Date | Relinquish By | Received By | Sample Custodian |
|------------------|---------------|-------------|------------------|
| 06/07/2006 00:00 | | 099999 | |

06/21/06

Teledyne Brown Engineering
Internal Chain of Custody
Supplemental Sheet

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L28851-1 WG WG-DN-DSP-149R-053106-JH-019

| <u>Process step</u> | <u>Prod</u> | <u>Analyst</u> | <u>Date</u> |
|---------------------|--------------|----------------|-------------|
| Login | | BWILKERSON | 06/07/06 |
| Aliquot | H-3 | SO | 06/09/06 |
| Aliquot | GELI | DW | 06/10/06 |
| Aliquot | SR-90 (FAST) | LCB | 06/14/06 |
| Count Room | GELI | KOJ | 06/12/06 |
| Count Room | H-3 | KOJ | 06/12/06 |
| Count Room | SR-90 (FAST) | KOJ | 06/20/06 |

L28851-2 WG WG-DN-DSP-149R-053106-JH-020

| <u>Process step</u> | <u>Prod</u> | <u>Analyst</u> | <u>Date</u> |
|---------------------|--------------|----------------|-------------|
| Login | | BWILKERSON | 06/07/06 |
| Aliquot | H-3 | SO | 06/09/06 |
| Aliquot | GELI | DW | 06/10/06 |
| Aliquot | SR-90 (FAST) | LCB | 06/14/06 |
| Count Room | GELI | KOJ | 06/12/06 |
| Count Room | H-3 | KOJ | 06/12/06 |
| Count Room | SR-90 (FAST) | KOJ | 06/20/06 |

L28851-3 WG WS-DN-SW-103-053106-JH-021

| <u>Process step</u> | <u>Prod</u> | <u>Analyst</u> | <u>Date</u> |
|---------------------|--------------|----------------|-------------|
| Login | | BWILKERSON | 06/07/06 |
| Aliquot | GELI | DW | 06/10/06 |
| Aliquot | H-3 | EJ | 06/10/06 |
| Aliquot | SR-90 (FAST) | LCB | 06/14/06 |
| Count Room | GELI | KOJ | 06/12/06 |
| Count Room | H-3 | KOJ | 06/12/06 |
| Count Room | SR-90 (FAST) | KOJ | 06/20/06 |

L28851-4 WG WG-DN-DSP-159S-053106-JH-022

| <u>Process step</u> | <u>Prod</u> | <u>Analyst</u> | <u>Date</u> |
|---------------------|--------------|----------------|-------------|
| Login | | BWILKERSON | 06/07/06 |
| Aliquot | GELI | DW | 06/10/06 |
| Aliquot | H-3 | EJ | 06/10/06 |
| Aliquot | SR-90 (FAST) | LCB | 06/14/06 |
| Count Room | GELI | KOJ | 06/12/06 |
| Count Room | H-3 | KOJ | 06/12/06 |
| Count Room | SR-90 (FAST) | KOJ | 06/20/06 |

L28851-5 WG WS-DN-SW-101-053106-JH-023

| <u>Process step</u> | <u>Prod</u> | <u>Analyst</u> | <u>Date</u> |
|---------------------|--------------|----------------|-------------|
| Login | | BWILKERSON | 06/07/06 |
| Aliquot | GELI | DW | 06/10/06 |
| Aliquot | H-3 | EJ | 06/10/06 |
| Aliquot | SR-90 (FAST) | LCB | 06/14/06 |
| Count Room | GELI | KOJ | 06/12/06 |

06/21/06

Teledyne Brown Engineering
Internal Chain of Custody
Supplemental Sheet

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L28851-5 WG WS-DN-SW-101-053106-JH-023

| | | | |
|------------|--------------|-----|----------|
| Count Room | H-3 | KOJ | 06/12/06 |
| Count Room | SR-90 (FAST) | KOJ | 06/20/06 |

L28851-6 WG WS-DN-SW-102-053106-JH-024

| <u>Process step</u> | <u>Prod</u> | <u>Analyst</u> | <u>Date</u> |
|---------------------|--------------|----------------|-------------|
| Login | | BWILKERSON | 06/07/06 |
| Aliquot | GELI | DW | 06/10/06 |
| Aliquot | H-3 | EJ | 06/10/06 |
| Aliquot | SR-90 (FAST) | LCB | 06/14/06 |
| Count Room | GELI | KOJ | 06/12/06 |
| Count Room | H-3 | KOJ | 06/12/06 |
| Count Room | SR-90 (FAST) | KOJ | 06/20/06 |

L28851-7 WG WS-DN-SW-105-060106-JH-025

| <u>Process step</u> | <u>Prod</u> | <u>Analyst</u> | <u>Date</u> |
|---------------------|--------------|----------------|-------------|
| Login | | BWILKERSON | 06/07/06 |
| Aliquot | GELI | DW | 06/10/06 |
| Aliquot | H-3 | EJ | 06/10/06 |
| Aliquot | SR-90 (FAST) | LCB | 06/14/06 |
| Count Room | GELI | KOJ | 06/12/06 |
| Count Room | H-3 | KOJ | 06/12/06 |
| Count Room | SR-90 (FAST) | KOJ | 06/21/06 |

L28851-8 WG WS-DN-SW-104-060106-JH-026

| <u>Process step</u> | <u>Prod</u> | <u>Analyst</u> | <u>Date</u> |
|---------------------|--------------|----------------|-------------|
| Login | | BWILKERSON | 06/07/06 |
| Aliquot | GELI | DW | 06/10/06 |
| Aliquot | H-3 | EJ | 06/10/06 |
| Aliquot | SR-90 (FAST) | LCB | 06/14/06 |
| Count Room | GELI | ILL | 06/13/06 |
| Count Room | H-3 | KOJ | 06/12/06 |
| Count Room | SR-90 (FAST) | KOJ | 06/20/06 |

L28851-9 WG WS-DN-SW-106-060106-JH-027

| <u>Process step</u> | <u>Prod</u> | <u>Analyst</u> | <u>Date</u> |
|---------------------|--------------|----------------|-------------|
| Login | | BWILKERSON | 06/07/06 |
| Aliquot | GELI | DW | 06/10/06 |
| Aliquot | H-3 | EJ | 06/10/06 |
| Aliquot | SR-90 (FAST) | LCB | 06/14/06 |
| Count Room | GELI | ILL | 06/13/06 |
| Count Room | H-3 | KOJ | 06/12/06 |
| Count Room | SR-90 (FAST) | KOJ | 06/20/06 |

L28851-10 WG WS-DN-SW-106-060106-JH-028

| <u>Process step</u> | <u>Prod</u> | <u>Analyst</u> | <u>Date</u> |
|---------------------|-------------|----------------|-------------|
| Login | | BWILKERSON | 06/07/06 |

06/21/06

Teledyne Brown Engineering
Internal Chain of Custody
Supplemental Sheet

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| | | | |
|------------------|--------------|-----------------------------------|----------|
| L28851-10 | WG | WS-DN-SW-106-060106-JH-028 | |
| Aliquot | GELI | DW | 06/10/06 |
| Aliquot | H-3 | EJ | 06/10/06 |
| Aliquot | SR-90 (FAST) | LCB | 06/14/06 |
| Count Room | GELI | ILL | 06/13/06 |
| Count Room | H-3 | KOJ | 06/12/06 |
| Count Room | SR-90 (FAST) | KOJ | 06/20/06 |

| | | | |
|---------------------|--------------|---------------------------------------|-------------|
| L28851-11 | WG | WG-DN-MW-DN-110S-053006-JL-067 | |
| <u>Process step</u> | <u>Prod</u> | <u>Analyst</u> | <u>Date</u> |
| Login | | BWILKERSON | 06/07/06 |
| Aliquot | GELI | DW | 06/10/06 |
| Aliquot | H-3 | EJ | 06/10/06 |
| Aliquot | SR-90 (FAST) | LCB | 06/14/06 |
| Count Room | GELI | ILL | 06/13/06 |
| Count Room | H-3 | KOJ | 06/12/06 |
| Count Room | SR-90 (FAST) | KOJ | 06/20/06 |

| | | | |
|---------------------|--------------|---------------------------------------|-------------|
| L28851-12 | WG | WG-DN-MW-DN-110I-053006-JL-068 | |
| <u>Process step</u> | <u>Prod</u> | <u>Analyst</u> | <u>Date</u> |
| Login | | BWILKERSON | 06/07/06 |
| Aliquot | GELI | DW | 06/10/06 |
| Aliquot | H-3 | EJ | 06/10/06 |
| Aliquot | SR-90 (FAST) | LCB | 06/14/06 |
| Count Room | GELI | ILL | 06/13/06 |
| Count Room | H-3 | KOJ | 06/13/06 |
| Count Room | SR-90 (FAST) | KOJ | 06/20/06 |

| | | | |
|---------------------|--------------|---------------------------------------|-------------|
| L28851-13 | WG | WG-DN-MW-DN-104S-053006-JL-069 | |
| <u>Process step</u> | <u>Prod</u> | <u>Analyst</u> | <u>Date</u> |
| Login | | BWILKERSON | 06/07/06 |
| Aliquot | GELI | DW | 06/10/06 |
| Aliquot | H-3 | EJ | 06/10/06 |
| Aliquot | SR-90 (FAST) | LCB | 06/14/06 |
| Count Room | GELI | ILL | 06/13/06 |
| Count Room | H-3 | KOJ | 06/13/06 |
| Count Room | SR-90 (FAST) | KOJ | 06/20/06 |

| | | | |
|---------------------|--------------|---------------------------------------|-------------|
| L28851-14 | WG | WG-DN-MW-DN-109I-053106-JL-070 | |
| <u>Process step</u> | <u>Prod</u> | <u>Analyst</u> | <u>Date</u> |
| Login | | BWILKERSON | 06/07/06 |
| Aliquot | GELI | DW | 06/10/06 |
| Aliquot | H-3 | EJ | 06/10/06 |
| Aliquot | SR-90 (FAST) | LCB | 06/14/06 |
| Count Room | GELI | ILL | 06/13/06 |
| Count Room | H-3 | KOJ | 06/13/06 |
| Count Room | SR-90 (FAST) | KOJ | 06/20/06 |

06/21/06

Teledyne Brown Engineering
Internal Chain of Custody
Supplemental Sheet

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L28851-15 WG WG-DN-MW-DN-109I-053106-JL-071

| <u>Process step</u> | <u>Prod</u> | <u>Analyst</u> | <u>Date</u> |
|---------------------|--------------|----------------|-------------|
| Login | | BWILKERSON | 06/07/06 |
| Aliquot | GELI | DW | 06/10/06 |
| Aliquot | H-3 | EJ | 06/10/06 |
| Aliquot | SR-90 (FAST) | LCB | 06/14/06 |
| Count Room | GELI | KPW | 06/13/06 |
| Count Room | H-3 | KOJ | 06/13/06 |
| Count Room | SR-90 (FAST) | KOJ | 06/20/06 |

L28851-16 WG WG-DN-MW-DN-109S-053106-JL-072

| <u>Process step</u> | <u>Prod</u> | <u>Analyst</u> | <u>Date</u> |
|---------------------|--------------|----------------|-------------|
| Login | | BWILKERSON | 06/07/06 |
| Aliquot | GELI | DW | 06/10/06 |
| Aliquot | H-3 | EJ | 06/10/06 |
| Aliquot | SR-90 (FAST) | LCB | 06/14/06 |
| Count Room | GELI | KPW | 06/13/06 |
| Count Room | H-3 | KOJ | 06/13/06 |
| Count Room | SR-90 (FAST) | KOJ | 06/20/06 |

L28851-17 WG WG-DN-MW-DN-111S-053106-JL-073

| <u>Process step</u> | <u>Prod</u> | <u>Analyst</u> | <u>Date</u> |
|---------------------|--------------|----------------|-------------|
| Login | | BWILKERSON | 06/07/06 |
| Aliquot | GELI | DW | 06/10/06 |
| Aliquot | H-3 | EJ | 06/10/06 |
| Aliquot | SR-90 (FAST) | LCB | 06/14/06 |
| Count Room | GELI | KOJ | 06/13/06 |
| Count Room | H-3 | KOJ | 06/13/06 |
| Count Room | SR-90 (FAST) | KOJ | 06/20/06 |

L28851-18 WG WG-DN-MW-DN-107S-053106-JL-074

| <u>Process step</u> | <u>Prod</u> | <u>Analyst</u> | <u>Date</u> |
|---------------------|--------------|----------------|-------------|
| Login | | BWILKERSON | 06/07/06 |
| Aliquot | GELI | DW | 06/10/06 |
| Aliquot | H-3 | EJ | 06/10/06 |
| Aliquot | SR-90 (FAST) | LCB | 06/14/06 |
| Count Room | GELI | KOJ | 06/13/06 |
| Count Room | H-3 | KOJ | 06/13/06 |
| Count Room | SR-90 (FAST) | KOJ | 06/20/06 |

Analytical Results Summary

Report of Analysis

06/21/06 11:17

L28851

Conestoga-Rovers & Associates

EX001-3ESPDRES-06

Kathy Shaw



TELEDYNE
BROWN ENGINEERING, INC.
A Teledyne Technologies Company

| | | | |
|--|---------------------------------|----------------------|------|
| Sample ID: WG-DN-DSP-149R-053106-JH-019 | Collect Start: 05/31/2006 10:00 | Matrix: Ground Water | (WG) |
| Station: | Collect Stop: | Volume: | |
| Description: | Receive Date: 06/07/2006 | % Moisture: | |
| LIMS Number: L28851-1 | | | |

| Radionuclide | SOP# | Activity Conc | Uncertainty 2 Sigma | MDC | Units | Run # | Aliquot Volume | Aliquot Units | Reference Date | Count Date | Count Time | Count Units | Flag Values |
|--------------|------|-----------------|---------------------|-----------------|-------|-------|----------------|---------------|----------------|------------|------------|-------------|-------------|
| H-3 | 2010 | 6.68E+02 | 1.44E+02 | 1.72E+02 | pCi/L | | 10 | ml | | 06/12/06 | 60 | M | + |
| TOTAL SR | 2018 | 3.50E-01 | 7.55E-01 | 1.48E+00 | pCi/L | | 450 | ml | 05/31/06 10:00 | 06/20/06 | 120 | M | U |
| MN-54 | 2007 | 6.31E-01 | 2.18E+00 | 3.64E+00 | pCi/L | | 3096.73 | ml | 05/31/06 10:00 | 06/12/06 | 21600 | Sec | U |
| CO-58 | 2007 | -2.54E+00 | 2.49E+00 | 3.86E+00 | pCi/L | | 3096.73 | ml | 05/31/06 10:00 | 06/12/06 | 21600 | Sec | U |
| FE-59 | 2007 | 4.80E+00 | 5.09E+00 | 8.85E+00 | pCi/L | | 3096.73 | ml | 05/31/06 10:00 | 06/12/06 | 21600 | Sec | U |
| CO-60 | 2007 | 6.03E-01 | 2.75E+00 | 4.31E+00 | pCi/L | | 3096.73 | ml | 05/31/06 10:00 | 06/12/06 | 21600 | Sec | U |
| ZN-65 | 2007 | 2.23E+00 | 4.78E+00 | 8.08E+00 | pCi/L | | 3096.73 | ml | 05/31/06 10:00 | 06/12/06 | 21600 | Sec | U |
| NB-95 | 2007 | 3.02E-01 | 2.28E+00 | 3.79E+00 | pCi/L | | 3096.73 | ml | 05/31/06 10:00 | 06/12/06 | 21600 | Sec | U |
| ZR-95 | 2007 | 6.97E-01 | 4.18E+00 | 6.97E+00 | pCi/L | | 3096.73 | ml | 05/31/06 10:00 | 06/12/06 | 21600 | Sec | U |
| CS-134 | 2007 | -1.13E+00 | 4.10E+00 | 3.91E+00 | pCi/L | | 3096.73 | ml | 05/31/06 10:00 | 06/12/06 | 21600 | Sec | U |
| CS-137 | 2007 | 9.09E-01 | 2.35E+00 | 3.90E+00 | pCi/L | | 3096.73 | ml | 05/31/06 10:00 | 06/12/06 | 21600 | Sec | U |
| BA-140 | 2007 | 7.75E+00 | 1.40E+01 | 2.38E+01 | pCi/L | | 3096.73 | ml | 05/31/06 10:00 | 06/12/06 | 21600 | Sec | U |
| LA-140 | 2007 | -7.56E-01 | 4.74E+00 | 7.75E+00 | pCi/L | | 3096.73 | ml | 05/31/06 10:00 | 06/12/06 | 21600 | Sec | U |

Flag Values

- U = Compound/Analyte not detected or less than 3 sigma
- +
- U* = Activity concentration exceeds MDC and 3 sigma; peak identified(gamma only)
- High = Compound/Analyte not detected. Peak not identified, but forced activity concentration exceeds MDC and 3 sigma
- Spec = Activity concentration exceeds customer reporting value
- L = MDC exceeds customer technical specification
- H = Low recovery
- H = High recovery

Bolded text indicates reportable value.

- No = Peak not identified in gamma spectrum
- Yes = Peak identified in gamma spectrum
- **** Results are reported on an as received basis unless otherwise noted

MDC - Minimum Detectable Concentration

Report of Analysis

06/21/06 11:17

L28851

Conestoga-Rovers & Associates

EX001-3ESPDRES-06



TELEDYNE
BROWN ENGINEERING, INC.
A Teledyne Technologies Company

Kathy Shaw

Sample ID: **WG-DN-DSP-149R-053106-JH-020**

Station:

Description:

LIMS Number: L28851-2

Collect Start: 05/31/2006 10:40

Collect Stop:

Receive Date: 06/07/2006

Matrix: Ground Water

(WG)

Volume:

% Moisture:

| Radionuclide | SOP# | Activity Conc | Uncertainty 2 Sigma | MDC | Units | Run # | Aliquot Volume | Aliquot Units | Reference Date | Count Date | Count Time | Count Units | Flag Values |
|--------------|------|-----------------|---------------------|-----------------|-------|-------|----------------|---------------|----------------|------------|------------|-------------|-------------|
| H-3 | 2010 | 6.94E+02 | 1.43E+02 | 1.70E+02 | pCi/L | | 10 | ml | | 06/12/06 | 60 | M | + |
| TOTAL SR | 2018 | 1.26E+00 | 9.74E-01 | 1.78E+00 | pCi/L | | 450 | ml | 05/31/06 10:40 | 06/20/06 | 120 | M | U |
| MN-54 | 2007 | 1.33E+00 | 1.96E+00 | 3.34E+00 | pCi/L | | 3131.8 | ml | 05/31/06 10:40 | 06/12/06 | 21600 | Sec | U |
| CO-58 | 2007 | -9.97E-01 | 2.09E+00 | 3.38E+00 | pCi/L | | 3131.8 | ml | 05/31/06 10:40 | 06/12/06 | 21600 | Sec | U |
| FE-59 | 2007 | 5.92E-01 | 4.22E+00 | 7.04E+00 | pCi/L | | 3131.8 | ml | 05/31/06 10:40 | 06/12/06 | 21600 | Sec | U |
| CO-60 | 2007 | -4.38E-02 | 1.95E+00 | 3.18E+00 | pCi/L | | 3131.8 | ml | 05/31/06 10:40 | 06/12/06 | 21600 | Sec | U |
| ZN-65 | 2007 | 3.28E+00 | 3.94E+00 | 6.83E+00 | pCi/L | | 3131.8 | ml | 05/31/06 10:40 | 06/12/06 | 21600 | Sec | U |
| NB-95 | 2007 | -5.84E-01 | 2.03E+00 | 3.33E+00 | pCi/L | | 3131.8 | ml | 05/31/06 10:40 | 06/12/06 | 21600 | Sec | U |
| ZR-95 | 2007 | -1.17E-01 | 3.63E+00 | 5.88E+00 | pCi/L | | 3131.8 | ml | 05/31/06 10:40 | 06/12/06 | 21600 | Sec | U |
| CS-134 | 2007 | -1.64E+00 | 2.16E+00 | 3.46E+00 | pCi/L | | 3131.8 | ml | 05/31/06 10:40 | 06/12/06 | 21600 | Sec | U |
| CS-137 | 2007 | 8.70E-01 | 2.02E+00 | 3.38E+00 | pCi/L | | 3131.8 | ml | 05/31/06 10:40 | 06/12/06 | 21600 | Sec | U |
| BA-140 | 2007 | 6.82E+00 | 1.31E+01 | 2.22E+01 | pCi/L | | 3131.8 | ml | 05/31/06 10:40 | 06/12/06 | 21600 | Sec | U |
| LA-140 | 2007 | -1.33E+00 | 4.26E+00 | 6.85E+00 | pCi/L | | 3131.8 | ml | 05/31/06 10:40 | 06/12/06 | 21600 | Sec | U |

Flag Values

- U = Compound/Analyte not detected or less than 3 sigma
- +
- U* = Activity concentration exceeds MDC and 3 sigma; peak identified(gamma only)
- U* = Compound/Analyte not detected. Peak not identified, but forced activity concentration exceeds MDC and 3 sigma
- High = Activity concentration exceeds customer reporting value
- Spec = MDC exceeds customer technical specification
- L = Low recovery
- H = High recovery

Bolded text indicates reportable value.

No = Peak not identified in gamma spectrum

Yes = Peak identified in gamma spectrum

**** Results are reported on an as received basis unless otherwise noted

MDC - Minimum Detectable Concentration

Report of Analysis

06/21/06 11:17



TELEDYNE
BROWN ENGINEERING, INC.
A Teledyne Technologies Company

L28851

Conestoga-Rovers & Associates

EX001-3ESPDRES-06

Kathy Shaw

| Sample ID: WS-DN-SW-103-053106-JH-021 | | | | Collect Start: 05/31/2006 11:40 | | | | Matrix: Ground Water | | | | (WG) | | | | |
|--|------|---------------|---------------------|---------------------------------|-------|-------|----------------|----------------------|----------------|------------|------------|-------------|-------------|--|----|--|
| Station: | | | | Collect Stop: | | | | Volume: | | | | | | | | |
| Description: | | | | Receive Date: 06/07/2006 | | | | % Moisture: | | | | | | | | |
| LIMS Number: L28851-3 | | | | | | | | | | | | | | | | |
| Radionuclide | SOP# | Activity Conc | Uncertainty 2 Sigma | MDC | Units | Run # | Aliquot Volume | Aliquot Units | Reference Date | Count Date | Count Time | Count Units | Flag Values | | | |
| H-3 | 2010 | -1.73E+01 | 1.03E+02 | 1.71E+02 | pCi/L | | 10 | ml | | 06/12/06 | 60 | M | U | | | |
| TOTAL SR | 2018 | 6.53E-01 | 6.07E-01 | 1.12E+00 | pCi/L | | 450 | ml | 05/31/06 11:40 | 06/20/06 | 120 | M | U | | | |
| MN-54 | 2007 | 3.82E-01 | 2.18E+00 | 3.63E+00 | pCi/L | | 3013.9 | ml | 05/31/06 11:40 | 06/12/06 | 28800 | Sec | U | | No | |
| CO-58 | 2007 | -5.49E-01 | 2.43E+00 | 3.97E+00 | pCi/L | | 3013.9 | ml | 05/31/06 11:40 | 06/12/06 | 28800 | Sec | U | | No | |
| FE-59 | 2007 | 1.49E+00 | 5.10E+00 | 8.59E+00 | pCi/L | | 3013.9 | ml | 05/31/06 11:40 | 06/12/06 | 28800 | Sec | U | | No | |
| CO-60 | 2007 | 7.63E-01 | 2.21E+00 | 3.71E+00 | pCi/L | | 3013.9 | ml | 05/31/06 11:40 | 06/12/06 | 28800 | Sec | U | | No | |
| ZN-65 | 2007 | -7.34E-01 | 5.78E+00 | 7.97E+00 | pCi/L | | 3013.9 | ml | 05/31/06 11:40 | 06/12/06 | 28800 | Sec | U | | No | |
| NB-95 | 2007 | 3.76E-01 | 2.36E+00 | 3.95E+00 | pCi/L | | 3013.9 | ml | 05/31/06 11:40 | 06/12/06 | 28800 | Sec | U | | No | |
| ZR-95 | 2007 | -1.88E-01 | 4.16E+00 | 6.89E+00 | pCi/L | | 3013.9 | ml | 05/31/06 11:40 | 06/12/06 | 28800 | Sec | U | | No | |
| CS-134 | 2007 | -7.66E-01 | 5.63E+00 | 3.84E+00 | pCi/L | | 3013.9 | ml | 05/31/06 11:40 | 06/12/06 | 28800 | Sec | U | | No | |
| CS-137 | 2007 | 4.16E-01 | 2.39E+00 | 3.92E+00 | pCi/L | | 3013.9 | ml | 05/31/06 11:40 | 06/12/06 | 28800 | Sec | U | | No | |
| BA-140 | 2007 | 4.19E+00 | 1.53E+01 | 2.56E+01 | pCi/L | | 3013.9 | ml | 05/31/06 11:40 | 06/12/06 | 28800 | Sec | U | | No | |
| LA-140 | 2007 | 5.80E+00 | 5.07E+00 | 9.02E+00 | pCi/L | | 3013.9 | ml | 05/31/06 11:40 | 06/12/06 | 28800 | Sec | U | | No | |

Flag Values

U = Compound/Analyte not detected or less than 3 sigma
+ = Activity concentration exceeds MDC and 3 sigma; peak identified(gamma only)
U* = Compound/Analyte not detected. Peak not identified, but forced activity concentration exceeds MDC and 3 sigma
High = Activity concentration exceeds customer reporting value
Spec = MDC exceeds customer technical specification
L = Low recovery
H = High recovery

Bolded text indicates reportable value.

No = Peak not identified in gamma spectrum

Yes = Peak identified in gamma spectrum

**** Results are reported on an as received basis unless otherwise noted

MDC - Minimum Detectable Concentration

Report of Analysis

06/21/06 11:17

L28851

Conestoga-Rovers & Associates

EX001-3ESPDRES-06



TELEDYNE
BROWN ENGINEERING, INC.
A Teledyne Technologies Company

Kathy Shaw

| | | |
|--|---------------------------------|---------------------------|
| Sample ID: WG-DN-DSP-159S-053106-JH-022 | Collect Start: 05/31/2006 13:30 | Matrix: Ground Water (WG) |
| Station: | Collect Stop: | Volume: |
| Description: | Receive Date: 06/07/2006 | % Moisture: |
| LIMS Number: L28851-4 | | |

| Radionuclide | SOP# | Activity Conc | Uncertainty 2 Sigma | MDC | Units | Run # | Aliquot Volume | Aliquot Units | Reference Date | Count Date | Count Time | Count Units | Flag Values |
|--------------|------|---------------|---------------------|-----------------|-------|-------|----------------|---------------|----------------|------------|------------|-------------|-------------|
| H-3 | 2010 | -2.15E+00 | 1.03E+02 | 1.70E+02 | pCi/L | | 10 | ml | | 06/12/06 | 60 | M | U |
| TOTAL SR | 2018 | 8.99E-01 | 5.54E-01 | 9.79E-01 | pCi/L | | 450 | ml | 05/31/06 13:30 | 06/20/06 | 120 | M | U |
| MN-54 | 2007 | -3.03E-01 | 2.12E+00 | 3.44E+00 | pCi/L | | 3420.15 | ml | 05/31/06 13:30 | 06/12/06 | 28800 | Sec | U |
| CO-58 | 2007 | -8.80E-01 | 2.34E+00 | 3.76E+00 | pCi/L | | 3420.15 | ml | 05/31/06 13:30 | 06/12/06 | 28800 | Sec | U |
| FE-59 | 2007 | 4.29E+00 | 4.76E+00 | 8.26E+00 | pCi/L | | 3420.15 | ml | 05/31/06 13:30 | 06/12/06 | 28800 | Sec | U |
| CO-60 | 2007 | 6.50E-01 | 2.16E+00 | 3.61E+00 | pCi/L | | 3420.15 | ml | 05/31/06 13:30 | 06/12/06 | 28800 | Sec | U |
| ZN-65 | 2007 | 1.10E+00 | 4.64E+00 | 7.78E+00 | pCi/L | | 3420.15 | ml | 05/31/06 13:30 | 06/12/06 | 28800 | Sec | U |
| NB-95 | 2007 | 2.86E+00 | 2.35E+00 | 4.08E+00 | pCi/L | | 3420.15 | ml | 05/31/06 13:30 | 06/12/06 | 28800 | Sec | U |
| ZR-95 | 2007 | 1.14E-01 | 4.22E+00 | 6.94E+00 | pCi/L | | 3420.15 | ml | 05/31/06 13:30 | 06/12/06 | 28800 | Sec | U |
| CS-134 | 2007 | 1.79E+00 | 3.82E+00 | 3.86E+00 | pCi/L | | 3420.15 | ml | 05/31/06 13:30 | 06/12/06 | 28800 | Sec | U |
| CS-137 | 2007 | 1.63E+00 | 2.33E+00 | 3.96E+00 | pCi/L | | 3420.15 | ml | 05/31/06 13:30 | 06/12/06 | 28800 | Sec | U |
| BA-140 | 2007 | 5.83E+00 | 1.48E+01 | 2.45E+01 | pCi/L | | 3420.15 | ml | 05/31/06 13:30 | 06/12/06 | 28800 | Sec | U |
| LA-140 | 2007 | 4.21E-01 | 4.72E+00 | 7.89E+00 | pCi/L | | 3420.15 | ml | 05/31/06 13:30 | 06/12/06 | 28800 | Sec | U |

Flag Values

- U = Compound/Analyte not detected or less than 3 sigma
- + = Activity concentration exceeds MDC and 3 sigma; peak identified(gamma only)
- U* = Compound/Analyte not detected. Peak not identified, but forced activity concentration exceeds MDC and 3 sigma
- High = Activity concentration exceeds customer reporting value
- Spec = MDC exceeds customer technical specification
- L = Low recovery
- H = High recovery

Bolded text indicates reportable value.

- No = Peak not identified in gamma spectrum
- Yes = Peak identified in gamma spectrum
- **** Results are reported on an as received basis unless otherwise noted

MDC - Minimum Detectable Concentration

Report of Analysis

06/21/06 11:17

L28851

Conestoga-Rovers & Associates

EX001-3ESPDRES-06



TELEDYNE
BROWN ENGINEERING, INC.
A Teledyne Technologies Company

Kathy Shaw

| | | |
|--|---------------------------------|---------------------------|
| Sample ID: WS-DN-SW-101-053106-JH-023 | Collect Start: 05/31/2006 14:30 | Matrix: Ground Water (WG) |
| Station: | Collect Stop: | Volume: |
| Description: | Receive Date: 06/07/2006 | % Moisture: |
| LIMS Number: L28851-5 | | |

| Radionuclide | SOP# | Activity Conc | Uncertainty 2 Sigma | MDC | Units | Run # | Aliquot Volume | Aliquot Units | Reference Date | Count Date | Count Time | Count Units | Flag Values |
|--------------|------|---------------|---------------------|-----------------|-------|-------|----------------|---------------|----------------|------------|------------|-------------|-------------|
| H-3 | 2010 | -8.58E+01 | 9.69E+01 | 1.70E+02 | pCi/L | | 10 | ml | | 06/12/06 | 60 | M | U |
| TOTAL SR | 2018 | 1.32E+00 | 8.46E-01 | 1.48E+00 | pCi/L | | 450 | ml | 05/31/06 14:30 | 06/20/06 | 120 | M | U |
| MN-54 | 2007 | 1.23E+00 | 2.10E+00 | 3.56E+00 | pCi/L | | 3190.64 | ml | 05/31/06 14:30 | 06/12/06 | 21600 | Sec | U |
| CO-58 | 2007 | 1.58E+00 | 2.20E+00 | 3.76E+00 | pCi/L | | 3190.64 | ml | 05/31/06 14:30 | 06/12/06 | 21600 | Sec | U |
| FE-59 | 2007 | 4.99E+00 | 4.80E+00 | 8.34E+00 | pCi/L | | 3190.64 | ml | 05/31/06 14:30 | 06/12/06 | 21600 | Sec | U |
| CO-60 | 2007 | -1.26E+00 | 2.21E+00 | 3.51E+00 | pCi/L | | 3190.64 | ml | 05/31/06 14:30 | 06/12/06 | 21600 | Sec | U |
| ZN-65 | 2007 | -9.86E-01 | 4.43E+00 | 7.19E+00 | pCi/L | | 3190.64 | ml | 05/31/06 14:30 | 06/12/06 | 21600 | Sec | U |
| NB-95 | 2007 | 1.75E+00 | 2.10E+00 | 3.63E+00 | pCi/L | | 3190.64 | ml | 05/31/06 14:30 | 06/12/06 | 21600 | Sec | U |
| ZR-95 | 2007 | -4.16E-01 | 3.92E+00 | 6.47E+00 | pCi/L | | 3190.64 | ml | 05/31/06 14:30 | 06/12/06 | 21600 | Sec | U |
| CS-134 | 2007 | 3.43E+00 | 4.06E+00 | 3.42E+00 | pCi/L | | 3190.64 | ml | 05/31/06 14:30 | 06/12/06 | 21600 | Sec | U |
| CS-137 | 2007 | 2.39E+00 | 2.40E+00 | 3.88E+00 | pCi/L | | 3190.64 | ml | 05/31/06 14:30 | 06/12/06 | 21600 | Sec | U |
| BA-140 | 2007 | 4.87E+00 | 1.35E+01 | 2.27E+01 | pCi/L | | 3190.64 | ml | 05/31/06 14:30 | 06/12/06 | 21600 | Sec | U |
| LA-140 | 2007 | 3.51E+00 | 4.35E+00 | 7.63E+00 | pCi/L | | 3190.64 | ml | 05/31/06 14:30 | 06/12/06 | 21600 | Sec | U |

Flag Values

- U = Compound/Analyte not detected or less than 3 sigma
- + = Activity concentration exceeds MDC and 3 sigma; peak identified(gamma only)
- U* = Compound/Analyte not detected. Peak not identified, but forced activity concentration exceeds MDC and 3 sigma
- High = Activity concentration exceeds customer reporting value
- Spec = MDC exceeds customer technical specification
- L = Low recovery
- H = High recovery

Bolded text indicates reportable value.

No = Peak not identified in gamma spectrum
 Yes = Peak identified in gamma spectrum
 **** Results are reported on an as received basis unless otherwise noted

MDC - Minimum Detectable Concentration

Report of Analysis

06/21/06 11:17

L28851

Conestoga-Rovers & Associates

EX001-3ESPDRES-06



TELEDYNE
BROWN ENGINEERING, INC.
A Teledyne Technologies Company

Kathy Shaw

| | | |
|--|---------------------------------|---------------------------|
| Sample ID: WS-DN-SW-102-053106-JH-024 | Collect Start: 05/31/2006 15:20 | Matrix: Ground Water (WG) |
| Station: | Collect Stop: | Volume: |
| Description: | Receive Date: 06/07/2006 | % Moisture: |
| LIMS Number: L28851-6 | | |

| Radionuclide | SOP# | Activity Conc | Uncertainty 2 Sigma | MDC | Units | Run # | Aliquot Volume | Aliquot Units | Reference Date | Count Date | Count Time | Count Units | Flag Values |
|--------------|------|---------------|---------------------|-----------------|-------|-------|----------------|---------------|----------------|------------|------------|-------------|-------------|
| H-3 | 2010 | -3.66E+01 | 1.01E+02 | 1.71E+02 | pCi/L | | 10 | ml | | 06/12/06 | 60 | M | U |
| TOTAL SR | 2018 | 1.02E+00 | 8.81E-01 | 1.61E+00 | pCi/L | | 450 | ml | 05/31/06 15:20 | 06/20/06 | 120 | M | U |
| MN-54 | 2007 | 1.92E+00 | 2.37E+00 | 3.98E+00 | pCi/L | | 3090.05 | ml | 05/31/06 15:20 | 06/12/06 | 28800 | Sec | U |
| CO-58 | 2007 | -1.86E+00 | 2.37E+00 | 3.73E+00 | pCi/L | | 3090.05 | ml | 05/31/06 15:20 | 06/12/06 | 28800 | Sec | U |
| FE-59 | 2007 | 1.53E+00 | 5.02E+00 | 8.33E+00 | pCi/L | | 3090.05 | ml | 05/31/06 15:20 | 06/12/06 | 28800 | Sec | U |
| CO-60 | 2007 | 3.12E-01 | 2.35E+00 | 3.89E+00 | pCi/L | | 3090.05 | ml | 05/31/06 15:20 | 06/12/06 | 28800 | Sec | U |
| ZN-65 | 2007 | 7.27E+00 | 5.88E+00 | 8.76E+00 | pCi/L | | 3090.05 | ml | 05/31/06 15:20 | 06/12/06 | 28800 | Sec | U |
| NB-95 | 2007 | 1.25E+00 | 2.49E+00 | 4.17E+00 | pCi/L | | 3090.05 | ml | 05/31/06 15:20 | 06/12/06 | 28800 | Sec | U |
| ZR-95 | 2007 | -3.68E+00 | 4.40E+00 | 6.98E+00 | pCi/L | | 3090.05 | ml | 05/31/06 15:20 | 06/12/06 | 28800 | Sec | U |
| CS-134 | 2007 | 1.59E+00 | 5.36E+00 | 3.84E+00 | pCi/L | | 3090.05 | ml | 05/31/06 15:20 | 06/12/06 | 28800 | Sec | U |
| CS-137 | 2007 | 1.78E+00 | 2.41E+00 | 4.09E+00 | pCi/L | | 3090.05 | ml | 05/31/06 15:20 | 06/12/06 | 28800 | Sec | U |
| BA-140 | 2007 | -1.04E+01 | 1.51E+01 | 2.41E+01 | pCi/L | | 3090.05 | ml | 05/31/06 15:20 | 06/12/06 | 28800 | Sec | U |
| LA-140 | 2007 | 1.83E+00 | 4.62E+00 | 7.84E+00 | pCi/L | | 3090.05 | ml | 05/31/06 15:20 | 06/12/06 | 28800 | Sec | U |

Flag Values

U = Compound/Analyte not detected or less than 3 sigma
 + = Activity concentration exceeds MDC and 3 sigma; peak identified(gamma only)
 U* = Compound/Analyte not detected. Peak not identified, but forced activity concentration exceeds MDC and 3 sigma
 High = Activity concentration exceeds customer reporting value
 Spec = MDC exceeds customer technical specification
 L = Low recovery
 H = High recovery

Bolded text indicates reportable value.

No = Peak not identified in gamma spectrum
 Yes = Peak identified in gamma spectrum
 **** Results are reported on an as received basis unless otherwise noted

MDC - Minimum Detectable Concentration

Report of Analysis

06/21/06 11:17

L28851

Conestoga-Rovers & Associates

EX001-3ESPDRES-06

Kathy Shaw



TELEDYNE
BROWN ENGINEERING, INC.
A Teledyne Technologies Company

| Sample ID: WS-DN-SW-105-060106-JH-025 | | | | | | Collect Start: 06/01/2006 09:00 | | | Matrix: Ground Water | | | (WG) | | | | |
|--|------|-----------------|---------------------|-----------------|-------|---------------------------------|----------------|---------------|----------------------|------------|------------|-------------|-------------|--|-----|--|
| Station: | | | | | | Collect Stop: | | | Volume: | | | | | | | |
| Description: | | | | | | Receive Date: 06/07/2006 | | | % Moisture: | | | | | | | |
| LIMS Number: L28851-7 | | | | | | | | | | | | | | | | |
| Radionuclide | SOP# | Activity Conc | Uncertainty 2 Sigma | MDC | Units | Run # | Aliquot Volume | Aliquot Units | Reference Date | Count Date | Count Time | Count Units | Flag Values | | | |
| H-3 | 2010 | 3.13E+01 | 1.02E+02 | 1.65E+02 | pCi/L | | 10 | ml | | 06/12/06 | 60 | M | U | | | |
| TOTAL SR | 2018 | 6.92E-01 | 7.52E-01 | 1.43E+00 | pCi/L | | 450 | ml | 06/01/06 09:00 | 06/21/06 | 100 | M | U | | | |
| K-40 | 2007 | 8.43E+01 | 4.29E+01 | 3.87E+01 | pCi/L | | 3088.11 | ml | 06/01/06 09:00 | 06/12/06 | 28800 | Sec | + | | Yes | |
| MN-54 | 2007 | 9.74E-02 | 2.49E+00 | 4.10E+00 | pCi/L | | 3088.11 | ml | 06/01/06 09:00 | 06/12/06 | 28800 | Sec | U | | No | |
| CO-58 | 2007 | -8.67E-01 | 2.58E+00 | 4.19E+00 | pCi/L | | 3088.11 | ml | 06/01/06 09:00 | 06/12/06 | 28800 | Sec | U | | No | |
| FE-59 | 2007 | 5.97E+00 | 5.17E+00 | 9.12E+00 | pCi/L | | 3088.11 | ml | 06/01/06 09:00 | 06/12/06 | 28800 | Sec | U | | No | |
| CO-60 | 2007 | -4.20E-01 | 2.63E+00 | 4.24E+00 | pCi/L | | 3088.11 | ml | 06/01/06 09:00 | 06/12/06 | 28800 | Sec | U | | No | |
| ZN-65 | 2007 | 2.35E+00 | 5.04E+00 | 8.55E+00 | pCi/L | | 3088.11 | ml | 06/01/06 09:00 | 06/12/06 | 28800 | Sec | U | | No | |
| NB-95 | 2007 | 8.42E-01 | 2.62E+00 | 4.40E+00 | pCi/L | | 3088.11 | ml | 06/01/06 09:00 | 06/12/06 | 28800 | Sec | U | | No | |
| ZR-95 | 2007 | 3.41E-01 | 4.79E+00 | 7.97E+00 | pCi/L | | 3088.11 | ml | 06/01/06 09:00 | 06/12/06 | 28800 | Sec | U | | No | |
| CS-134 | 2007 | 4.86E+00 | 3.85E+00 | 4.32E+00 | pCi/L | | 3088.11 | ml | 06/01/06 09:00 | 06/12/06 | 28800 | Sec | U | | No | |
| CS-137 | 2007 | 1.85E+00 | 2.67E+00 | 4.49E+00 | pCi/L | | 3088.11 | ml | 06/01/06 09:00 | 06/12/06 | 28800 | Sec | U | | No | |
| BA-140 | 2007 | -4.24E+00 | 1.60E+01 | 2.61E+01 | pCi/L | | 3088.11 | ml | 06/01/06 09:00 | 06/12/06 | 28800 | Sec | U | | No | |
| LA-140 | 2007 | -1.76E+00 | 5.23E+00 | 8.37E+00 | pCi/L | | 3088.11 | ml | 06/01/06 09:00 | 06/12/06 | 28800 | Sec | U | | No | |

Flag Values

- U = Compound/Analyte not detected or less than 3 sigma
- +
- U* = Activity concentration exceeds MDC and 3 sigma; peak identified(gamma only)
- U* = Compound/Analyte not detected. Peak not identified, but forced activity concentration exceeds MDC and 3 sigma
- High = Activity concentration exceeds customer reporting value
- Spec = MDC exceeds customer technical specification
- L = Low recovery
- H = High recovery

Bolded text indicates reportable value.

- No = Peak not identified in gamma spectrum
- Yes = Peak identified in gamma spectrum
- **** Results are reported on an as received basis unless otherwise noted

MDC - Minimum Detectable Concentration

Report of Analysis

06/21/06 11:17

L28851

Conestoga-Rovers & Associates

EX001-3ESPDRES-06



TELEDYNE
BROWN ENGINEERING, INC.
A Teledyne Technologies Company

Kathy Shaw

Sample ID: WS-DN-SW-104-060106-JH-026

Station:

Description:

LIMS Number: L28851-8

Collect Start: 06/01/2006 09:40

Collect Stop:

Receive Date: 06/07/2006

Matrix: Ground Water (WG)

Volume:

% Moisture:

| Radionuclide | SOP# | Activity Conc | Uncertainty 2 Sigma | MDC | Units | Run # | Aliquot Volume | Aliquot Units | Reference Date | Count Date | Count Time | Count Units | Flag Values |
|--------------|------|---------------|---------------------|----------|-------|-------|----------------|---------------|----------------|------------|------------|-------------|-------------|
| H-3 | 2010 | -4.88E+01 | 9.84E+01 | 1.68E+02 | pCi/L | | 10 | ml | | 06/12/06 | 60 | M | U |
| TOTAL SR | 2018 | 1.66E+00 | 9.69E-01 | 1.69E+00 | pCi/L | | 450 | ml | 06/01/06 09:40 | 06/20/06 | 120 | M | U |
| MN-54 | 2007 | -1.32E+00 | 3.04E+00 | 4.76E+00 | pCi/L | | 3121.66 | ml | 06/01/06 09:40 | 06/13/06 | 11782 | Sec | U |
| CO-58 | 2007 | 5.46E-01 | 3.22E+00 | 5.31E+00 | pCi/L | | 3121.66 | ml | 06/01/06 09:40 | 06/13/06 | 11782 | Sec | U |
| FE-59 | 2007 | 1.79E+00 | 6.74E+00 | 1.12E+01 | pCi/L | | 3121.66 | ml | 06/01/06 09:40 | 06/13/06 | 11782 | Sec | U |
| CO-60 | 2007 | 2.95E+00 | 3.67E+00 | 5.65E+00 | pCi/L | | 3121.66 | ml | 06/01/06 09:40 | 06/13/06 | 11782 | Sec | U |
| ZN-65 | 2007 | 3.47E+00 | 6.10E+00 | 1.06E+01 | pCi/L | | 3121.66 | ml | 06/01/06 09:40 | 06/13/06 | 11782 | Sec | U |
| NB-95 | 2007 | 3.16E-02 | 3.14E+00 | 5.14E+00 | pCi/L | | 3121.66 | ml | 06/01/06 09:40 | 06/13/06 | 11782 | Sec | U |
| ZR-95 | 2007 | 9.65E-01 | 5.63E+00 | 9.34E+00 | pCi/L | | 3121.66 | ml | 06/01/06 09:40 | 06/13/06 | 11782 | Sec | U |
| CS-134 | 2007 | 7.74E-01 | 3.68E+00 | 5.42E+00 | pCi/L | | 3121.66 | ml | 06/01/06 09:40 | 06/13/06 | 11782 | Sec | U |
| CS-137 | 2007 | 4.62E-01 | 3.16E+00 | 5.29E+00 | pCi/L | | 3121.66 | ml | 06/01/06 09:40 | 06/13/06 | 11782 | Sec | U |
| BA-140 | 2007 | -2.26E+00 | 1.89E+01 | 3.07E+01 | pCi/L | | 3121.66 | ml | 06/01/06 09:40 | 06/13/06 | 11782 | Sec | U |
| LA-140 | 2007 | 1.66E-01 | 7.19E+00 | 1.18E+01 | pCi/L | | 3121.66 | ml | 06/01/06 09:40 | 06/13/06 | 11782 | Sec | U |

Flag Values

- U = Compound/Analyte not detected or less than 3 sigma
- + = Activity concentration exceeds MDC and 3 sigma; peak identified(gamma only)
- U* = Compound/Analyte not detected. Peak not identified, but forced activity concentration exceeds MDC and 3 sigma
- High = Activity concentration exceeds customer reporting value
- Spec = MDC exceeds customer technical specification
- L = Low recovery
- H = High recovery

Bolded text indicates reportable value.

- No = Peak not identified in gamma spectrum
- Yes = Peak identified in gamma spectrum
- **** Results are reported on an as received basis unless otherwise noted

MDC - Minimum Detectable Concentration

Report of Analysis

06/21/06 11:17



**TELEDYNE
BROWN ENGINEERING, INC.**
A Teledyne Technologies Company

L28851

Conestoga-Rovers & Associates

EX001-3ESPDRES-06

Kathy Shaw

| | | |
|--|---------------------------------|---------------------------|
| Sample ID: WS-DN-SW-106-060106-JH-027 | Collect Start: 06/01/2006 11:20 | Matrix: Ground Water (WG) |
| Station: | Collect Stop: | Volume: |
| Description: | Receive Date: 06/07/2006 | % Moisture: |
| LIMS Number: L28851-9 | | |

| Radionuclide | SOP# | Activity Conc | Uncertainty 2 Sigma | MDC | Units | Run # | Aliquot Volume | Aliquot Units | Reference Date | Count Date | Count Time | Count Units | Flag Values |
|--------------|------|---------------|---------------------|-----------------|-------|-------|----------------|---------------|----------------|------------|------------|-------------|-------------|
| H-3 | 2010 | -5.31E+01 | 9.83E+01 | 1.68E+02 | pCi/L | | 10 | ml | | 06/12/06 | 60 | M | U |
| TOTAL SR | 2018 | 8.99E-01 | 8.92E-01 | 1.68E+00 | pCi/L | | 450 | ml | 06/01/06 11:20 | 06/20/06 | 120 | M | U |
| MN-54 | 2007 | 9.51E-01 | 2.72E+00 | 4.60E+00 | pCi/L | | 3297.96 | ml | 06/01/06 11:20 | 06/13/06 | 11822 | Sec | U |
| CO-58 | 2007 | 4.46E-01 | 2.96E+00 | 4.94E+00 | pCi/L | | 3297.96 | ml | 06/01/06 11:20 | 06/13/06 | 11822 | Sec | U |
| FE-59 | 2007 | -2.12E-01 | 6.40E+00 | 1.06E+01 | pCi/L | | 3297.96 | ml | 06/01/06 11:20 | 06/13/06 | 11822 | Sec | U |
| CO-60 | 2007 | -5.56E-01 | 2.90E+00 | 4.65E+00 | pCi/L | | 3297.96 | ml | 06/01/06 11:20 | 06/13/06 | 11822 | Sec | U |
| ZN-65 | 2007 | 9.89E-01 | 6.00E+00 | 1.01E+01 | pCi/L | | 3297.96 | ml | 06/01/06 11:20 | 06/13/06 | 11822 | Sec | U |
| NB-95 | 2007 | -2.84E-01 | 2.95E+00 | 4.88E+00 | pCi/L | | 3297.96 | ml | 06/01/06 11:20 | 06/13/06 | 11822 | Sec | U |
| ZR-95 | 2007 | -2.64E+00 | 5.21E+00 | 8.17E+00 | pCi/L | | 3297.96 | ml | 06/01/06 11:20 | 06/13/06 | 11822 | Sec | U |
| CS-134 | 2007 | 4.59E+00 | 5.49E+00 | 5.26E+00 | pCi/L | | 3297.96 | ml | 06/01/06 11:20 | 06/13/06 | 11822 | Sec | U |
| CS-137 | 2007 | -5.40E-01 | 2.94E+00 | 4.76E+00 | pCi/L | | 3297.96 | ml | 06/01/06 11:20 | 06/13/06 | 11822 | Sec | U |
| BA-140 | 2007 | -3.14E+00 | 1.83E+01 | 3.01E+01 | pCi/L | | 3297.96 | ml | 06/01/06 11:20 | 06/13/06 | 11822 | Sec | U |
| LA-140 | 2007 | 4.92E-01 | 5.97E+00 | 9.89E+00 | pCi/L | | 3297.96 | ml | 06/01/06 11:20 | 06/13/06 | 11822 | Sec | U |

Flag Values

- U = Compound/Analyte not detected or less than 3 sigma
- +
- U* = Activity concentration exceeds MDC and 3 sigma; peak identified(gamma only)
- U* = Compound/Analyte not detected. Peak not identified, but forced activity concentration exceeds MDC and 3 sigma
- High = Activity concentration exceeds customer reporting value
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MDC - Minimum Detectable Concentration

Report of Analysis

06/21/06 11:17

L28851

Conestoga-Rovers & Associates

EX001-3ESPDRES-06

Kathy Shaw



TELEDYNE
BROWN ENGINEERING, INC.
A Teledyne Technologies Company

Radon Show

| Sample ID: WS-DN-SW-106-060106-JH-028 | | | | | Collect Start: 06/01/2006 11:45 | | | | Matrix: Ground Water | | | | (WG) | | |
|--|------|---------------|---------------------|-----------------|---------------------------------|-------|----------------|---------------|----------------------|------------|------------|-------------|-------------|----|--|
| Station: | | | | | Collect Stop: | | | | Volume: | | | | | | |
| Description: | | | | | Receive Date: 06/07/2006 | | | | % Moisture: | | | | | | |
| LIMS Number: L28851-10 | | | | | | | | | | | | | | | |
| Radionuclide | SOP# | Activity Conc | Uncertainty 2 Sigma | MDC | Units | Run # | Aliquot Volume | Aliquot Units | Reference Date | Count Date | Count Time | Count Units | Flag Values | | |
| H-3 | 2010 | 5.38E+01 | 1.07E+02 | 1.70E+02 | pCi/L | | 10 | ml | | 06/12/06 | 60 | M | U | | |
| TOTAL SR | 2018 | 1.25E+00 | 9.60E-01 | 1.75E+00 | pCi/L | | 450 | ml | 06/01/06 11:45 | 06/20/06 | 120 | M | U | | |
| MN-54 | 2007 | 1.35E+00 | 2.74E+00 | 4.88E+00 | pCi/L | | 3216.63 | ml | 06/01/06 11:45 | 06/13/06 | 12902 | Sec | U | No | |
| CO-58 | 2007 | 1.18E+00 | 2.94E+00 | 5.22E+00 | pCi/L | | 3216.63 | ml | 06/01/06 11:45 | 06/13/06 | 12902 | Sec | U | No | |
| FE-59 | 2007 | -1.52E+00 | 5.86E+00 | 1.01E+01 | pCi/L | | 3216.63 | ml | 06/01/06 11:45 | 06/13/06 | 12902 | Sec | U | No | |
| CO-60 | 2007 | 8.01E-01 | 2.69E+00 | 4.86E+00 | pCi/L | | 3216.63 | ml | 06/01/06 11:45 | 06/13/06 | 12902 | Sec | U | No | |
| ZN-65 | 2007 | 3.32E+00 | 5.87E+00 | 1.07E+01 | pCi/L | | 3216.63 | ml | 06/01/06 11:45 | 06/13/06 | 12902 | Sec | U | No | |
| NB-95 | 2007 | 2.50E+00 | 2.98E+00 | 5.40E+00 | pCi/L | | 3216.63 | ml | 06/01/06 11:45 | 06/13/06 | 12902 | Sec | U | No | |
| ZR-95 | 2007 | -3.78E+00 | 5.33E+00 | 8.82E+00 | pCi/L | | 3216.63 | ml | 06/01/06 11:45 | 06/13/06 | 12902 | Sec | U | No | |
| CS-134 | 2007 | -1.66E+00 | 3.64E+00 | 5.14E+00 | pCi/L | | 3216.63 | ml | 06/01/06 11:45 | 06/13/06 | 12902 | Sec | U | No | |
| CS-137 | 2007 | 3.02E+00 | 2.96E+00 | 5.42E+00 | pCi/L | | 3216.63 | ml | 06/01/06 11:45 | 06/13/06 | 12902 | Sec | U | No | |
| BA-140 | 2007 | 1.08E+01 | 1.83E+01 | 3.19E+01 | pCi/L | | 3216.63 | ml | 06/01/06 11:45 | 06/13/06 | 12902 | Sec | U | No | |
| LA-140 | 2007 | 2.50E+00 | 5.17E+00 | 9.74E+00 | pCi/L | | 3216.63 | ml | 06/01/06 11:45 | 06/13/06 | 12902 | Sec | U | No | |

Flag Values

- U = Compound/Analyte not detected or less than 3 sigma
- + = Activity concentration exceeds MDC and 3 sigma; peak identified(gamma only)
- U* = Compound/Analyte not detected. Peak not identified, but forced activity concentration exceeds MDC and 3 sigma
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- L = Low recovery
- H = High recovery

Bolded text indicates reportable value.

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MDC - Minimum Detectable Concentration

Report of Analysis

06/21/06 11:17

L28851

Conestoga-Rovers & Associates

EX001-3ESPDRS-06

Kathy Shaw



TELEDYNE
BROWN ENGINEERING, INC.
A Teledyne Technologies Company

Sample ID: **WG-DN-MW-DN-110S-053006-JL-067**

Station:

Description:

LIMS Number: L28851-11

Collect Start: 05/30/2006 14:10

Collect Stop:

Receive Date: 06/07/2006

Matrix: Ground Water

Volume:

% Moisture:

(WG)

| Radionuclide | SOP# | Activity Conc | Uncertainty 2 Sigma | MDC | Units | Run # | Aliquot Volume | Aliquot Units | Reference Date | Count Date | Count Time | Count Units | Flag Values | | | |
|--------------|------|---------------|---------------------|----------|-------|-------|----------------|---------------|----------------|------------|------------|-------------|-------------|--|--|----|
| H-3 | 2010 | 9.55E+01 | 1.11E+02 | 1.72E+02 | pCi/L | | 10 | ml | | 06/12/06 | 60 | M | U | | | |
| TOTAL SR | 2018 | 1.20E+00 | 7.15E-01 | 1.25E+00 | pCi/L | | 450 | ml | 05/30/06 14:10 | 06/20/06 | 120 | M | U | | | |
| MN-54 | 2007 | 1.67E+00 | 3.13E+00 | 5.34E+00 | pCi/L | | 3253.44 | ml | 05/30/06 14:10 | 06/13/06 | 9361 | Sec | U | | | No |
| CO-58 | 2007 | -2.07E+00 | 3.43E+00 | 5.39E+00 | pCi/L | | 3253.44 | ml | 05/30/06 14:10 | 06/13/06 | 9361 | Sec | U | | | No |
| FE-59 | 2007 | 8.71E+00 | 6.84E+00 | 1.25E+01 | pCi/L | | 3253.44 | ml | 05/30/06 14:10 | 06/13/06 | 9361 | Sec | U | | | No |
| CO-60 | 2007 | 7.05E-01 | 3.32E+00 | 5.61E+00 | pCi/L | | 3253.44 | ml | 05/30/06 14:10 | 06/13/06 | 9361 | Sec | U | | | No |
| ZN-65 | 2007 | 5.20E+00 | 6.72E+00 | 1.18E+01 | pCi/L | | 3253.44 | ml | 05/30/06 14:10 | 06/13/06 | 9361 | Sec | U | | | No |
| NB-95 | 2007 | 2.06E+00 | 3.60E+00 | 6.18E+00 | pCi/L | | 3253.44 | ml | 05/30/06 14:10 | 06/13/06 | 9361 | Sec | U | | | No |
| ZR-95 | 2007 | -2.85E+00 | 6.06E+00 | 9.69E+00 | pCi/L | | 3253.44 | ml | 05/30/06 14:10 | 06/13/06 | 9361 | Sec | U | | | No |
| CS-134 | 2007 | 1.86E+00 | 6.05E+00 | 6.22E+00 | pCi/L | | 3253.44 | ml | 05/30/06 14:10 | 06/13/06 | 9361 | Sec | U | | | No |
| CS-137 | 2007 | 1.31E+00 | 3.25E+00 | 5.33E+00 | pCi/L | | 3253.44 | ml | 05/30/06 14:10 | 06/13/06 | 9361 | Sec | U | | | No |
| BA-140 | 2007 | 5.58E+00 | 2.21E+01 | 3.72E+01 | pCi/L | | 3253.44 | ml | 05/30/06 14:10 | 06/13/06 | 9361 | Sec | U | | | No |
| LA-140 | 2007 | 4.73E+00 | 7.88E+00 | 1.36E+01 | pCi/L | | 3253.44 | ml | 05/30/06 14:10 | 06/13/06 | 9361 | Sec | U | | | No |

Flag Values

U = Compound/Analyte not detected or less than 3 sigma
+ = Activity concentration exceeds MDC and 3 sigma; peak identified(gamma only)
U* = Compound/Analyte not detected. Peak not identified, but forced activity concentration exceeds MDC and 3 sigma
High = Activity concentration exceeds customer reporting value
Spec = MDC exceeds customer technical specification
L = Low recovery
H = High recovery

Bolded text indicates reportable value.

No = Peak not identified in gamma spectrum
Yes = Peak identified in gamma spectrum
**** Results are reported on an as received basis unless otherwise noted

MDC - Minimum Detectable Concentration

Report of Analysis

06/21/06 11:17

L28851

Conestoga-Rovers & Associates

EX001-3ESPDRES-06

Kathy Shaw

| Sample ID: WG-DN-MW-DN-1101-053006-JL-068 | | | | | | Collect Start: 05/30/2006 15:15 | | | | Matrix: Ground Water | | (WG) | | | |
|--|------|---------------|---------------------|----------|-------|---------------------------------|----------------|---------------|----------------|----------------------|------------|-------------|-------------|--|----|
| Station: | | | | | | Collect Stop: | | | | Volume: | | | | | |
| Description: | | | | | | Receive Date: 06/07/2006 | | | | % Moisture: | | | | | |
| LIMS Number: L28851-12 | | | | | | | | | | | | | | | |
| Radionuclide | SOP# | Activity Conc | Uncertainty 2 Sigma | MDC | Units | Run # | Aliquot Volume | Aliquot Units | Reference Date | Count Date | Count Time | Count Units | Flag Values | | |
| H-3 | 2010 | 5.16E+02 | 1.34E+02 | 1.70E+02 | pCi/L | | 10 | ml | | 06/13/06 | 60 | M | + | | |
| TOTAL SR | 2018 | 4.61E-01 | 7.46E-01 | 1.44E+00 | pCi/L | | 450 | ml | 05/30/06 15:15 | 06/20/06 | 120 | M | U | | |
| MN-54 | 2007 | -2.06E+00 | 3.10E+00 | 4.74E+00 | pCi/L | | 3074.72 | ml | 05/30/06 15:15 | 06/13/06 | 10800 | Sec | U | | No |
| CO-58 | 2007 | 1.54E+00 | 3.57E+00 | 6.01E+00 | pCi/L | | 3074.72 | ml | 05/30/06 15:15 | 06/13/06 | 10800 | Sec | U | | No |
| FE-59 | 2007 | 3.90E+00 | 7.97E+00 | 1.35E+01 | pCi/L | | 3074.72 | ml | 05/30/06 15:15 | 06/13/06 | 10800 | Sec | U | | No |
| CO-60 | 2007 | 1.05E+00 | 3.76E+00 | 6.27E+00 | pCi/L | | 3074.72 | ml | 05/30/06 15:15 | 06/13/06 | 10800 | Sec | U | | No |
| ZN-65 | 2007 | 3.02E+00 | 7.05E+00 | 1.21E+01 | pCi/L | | 3074.72 | ml | 05/30/06 15:15 | 06/13/06 | 10800 | Sec | U | | No |
| NB-95 | 2007 | 1.32E+00 | 3.26E+00 | 5.51E+00 | pCi/L | | 3074.72 | ml | 05/30/06 15:15 | 06/13/06 | 10800 | Sec | U | | No |
| ZR-95 | 2007 | -1.66E+00 | 6.08E+00 | 9.74E+00 | pCi/L | | 3074.72 | ml | 05/30/06 15:15 | 06/13/06 | 10800 | Sec | U | | No |
| CS-134 | 2007 | 1.89E+00 | 5.61E+00 | 5.75E+00 | pCi/L | | 3074.72 | ml | 05/30/06 15:15 | 06/13/06 | 10800 | Sec | U | | No |
| CS-137 | 2007 | 1.48E+00 | 3.38E+00 | 5.76E+00 | pCi/L | | 3074.72 | ml | 05/30/06 15:15 | 06/13/06 | 10800 | Sec | U | | No |
| BA-140 | 2007 | -1.99E+00 | 2.25E+01 | 3.67E+01 | pCi/L | | 3074.72 | ml | 05/30/06 15:15 | 06/13/06 | 10800 | Sec | U | | No |
| LA-140 | 2007 | -1.03E+01 | 7.90E+00 | 1.08E+01 | pCi/L | | 3074.72 | ml | 05/30/06 15:15 | 06/13/06 | 10800 | Sec | U | | No |

Flag Values

U = Compound/Analyte not detected or less than 3 sigma
+ = Activity concentration exceeds MDC and 3 sigma; peak identified(gamma only)
U* = Compound/Analyte not detected. Peak not identified, but forced activity concentration exceeds MDC and 3 sigma
High = Activity concentration exceeds customer reporting value
Spec = MDC exceeds customer technical specification
L = Low recovery
H = High recovery

Bolded text indicates reportable value.

No = Peak not identified in gamma spectrum
Yes = Peak identified in gamma spectrum
**** Results are reported on an as received basis unless otherwise noted

MDC - Minimum Detectable Concentration

Report of Analysis

06/21/06 11:17

L28851

Conestoga-Rovers & Associates

EX001-3ESPDRES-06



TELEDYNE
BROWN ENGINEERING, INC.
A Teledyne Technologies Company

Kathy Shaw

Sample ID: WG-DN-MW-DN-104S-053006-JL-069

Station:

Description:

LIMS Number: L28851-13

Collect Start: 05/30/2006 17:20

Collect Stop:

Receive Date: 06/07/2006

Matrix: Ground Water

Volume:

% Moisture:

(WG)

| Radionuclide | SOP# | Activity Conc | Uncertainty 2 Sigma | MDC | Units | Run # | Aliquot Volume | Aliquot Units | Reference Date | Count Date | Count Time | Count Units | Flag Values | | |
|--------------|------|---------------|---------------------|----------|-------|-------|----------------|---------------|----------------|------------|------------|-------------|-------------|--|----|
| H-3 | 2010 | 1.13E+02 | 1.12E+02 | 1.73E+02 | pCi/L | | 10 | ml | | 06/13/06 | 60 | M | U | | |
| TOTAL SR | 2018 | -2.64E-01 | 5.63E-01 | 1.20E+00 | pCi/L | | 450 | ml | 05/30/06 17:20 | 06/20/06 | 120 | M | U | | |
| MN-54 | 2007 | 3.25E+00 | 2.88E+00 | 5.17E+00 | pCi/L | | 3200.42 | ml | 05/30/06 17:20 | 06/13/06 | 8716 | Sec | U | | No |
| CO-58 | 2007 | -3.26E+00 | 3.18E+00 | 4.82E+00 | pCi/L | | 3200.42 | ml | 05/30/06 17:20 | 06/13/06 | 8716 | Sec | U | | No |
| FE-59 | 2007 | -1.04E-01 | 6.70E+00 | 1.11E+01 | pCi/L | | 3200.42 | ml | 05/30/06 17:20 | 06/13/06 | 8716 | Sec | U | | No |
| CO-60 | 2007 | -1.83E+00 | 3.14E+00 | 4.82E+00 | pCi/L | | 3200.42 | ml | 05/30/06 17:20 | 06/13/06 | 8716 | Sec | U | | No |
| ZN-65 | 2007 | 3.50E+00 | 6.70E+00 | 1.15E+01 | pCi/L | | 3200.42 | ml | 05/30/06 17:20 | 06/13/06 | 8716 | Sec | U | | No |
| NB-95 | 2007 | -6.58E-01 | 3.45E+00 | 5.66E+00 | pCi/L | | 3200.42 | ml | 05/30/06 17:20 | 06/13/06 | 8716 | Sec | U | | No |
| ZR-95 | 2007 | -1.32E+00 | 6.14E+00 | 9.81E+00 | pCi/L | | 3200.42 | ml | 05/30/06 17:20 | 06/13/06 | 8716 | Sec | U | | No |
| CS-134 | 2007 | -9.95E-01 | 3.31E+00 | 5.36E+00 | pCi/L | | 3200.42 | ml | 05/30/06 17:20 | 06/13/06 | 8716 | Sec | U | | No |
| CS-137 | 2007 | 3.02E+00 | 3.06E+00 | 5.36E+00 | pCi/L | | 3200.42 | ml | 05/30/06 17:20 | 06/13/06 | 8716 | Sec | U | | No |
| BA-140 | 2007 | -1.49E+00 | 2.14E+01 | 3.54E+01 | pCi/L | | 3200.42 | ml | 05/30/06 17:20 | 06/13/06 | 8716 | Sec | U | | No |
| LA-140 | 2007 | 1.06E+00 | 7.16E+00 | 1.20E+01 | pCi/L | | 3200.42 | ml | 05/30/06 17:20 | 06/13/06 | 8716 | Sec | U | | No |

Flag Values

U = Compound/Analyte not detected or less than 3 sigma
+ = Activity concentration exceeds MDC and 3 sigma; peak identified(gamma only)
U* = Compound/Analyte not detected. Peak not identified, but forced activity concentration exceeds MDC and 3 sigma
High = Activity concentration exceeds customer reporting value
Spec = MDC exceeds customer technical specification
L = Low recovery
H = High recovery

Bolded text indicates reportable value.

No = Peak not identified in gamma spectrum
Yes = Peak identified in gamma spectrum
**** Results are reported on an as received basis unless otherwise noted

MDC - Minimum Detectable Concentration

Report of Analysis

06/21/06 11:17

L28851

Conestoga-Rovers & Associates

EX001-3ESPDRES-06

Kathy Shaw



TELEDYNE
BROWN ENGINEERING, INC.
A Teledyne Technologies Company

Radon Show

| Sample ID: WG-DN-MW-DN-109I-053106-JL-070 | | | | | Collect Start: 05/31/2006 10:15 | | | | | Matrix: Ground Water (WG) | | | | |
|--|------|-----------------|---------------------|-----------------|---------------------------------|-------|----------------|---------------|----------------|---------------------------|------------|-------------|-------------|------|
| Station: | | | | | Collect Stop: | | | | | Volume: | | | | |
| Description: | | | | | Receive Date: 06/07/2006 | | | | | % Moisture: | | | | |
| LIMS Number: L28851-14 | | | | | | | | | | | | | | |
| Radionuclide | SOP# | Activity Conc | Uncertainty 2 Sigma | MDC | Units | Run # | Aliquot Volume | Aliquot Units | Reference Date | Count Date | Count Time | Count Units | Flag Values | |
| H-3 | 2010 | 3.62E+03 | 4.13E+02 | 2.91E+02 | pCi/L | | 10 | ml | | 06/13/06 | 21.07 | M | + | High |
| TOTAL SR | 2018 | 8.21E-01 | 7.95E-01 | 1.49E+00 | pCi/L | | 450 | ml | 05/31/06 10:15 | 06/20/06 | 120 | M | U | |
| MN-54 | 2007 | 2.07E+00 | 2.51E+00 | 4.53E+00 | pCi/L | | 3158.8 | ml | 05/31/06 10:15 | 06/13/06 | 15269 | Sec | U | No |
| CO-58 | 2007 | -6.36E-01 | 2.77E+00 | 4.70E+00 | pCi/L | | 3158.8 | ml | 05/31/06 10:15 | 06/13/06 | 15269 | Sec | U | No |
| FE-59 | 2007 | 1.68E+00 | 5.25E+00 | 9.42E+00 | pCi/L | | 3158.8 | ml | 05/31/06 10:15 | 06/13/06 | 15269 | Sec | U | No |
| CO-60 | 2007 | 1.82E+00 | 2.44E+00 | 4.52E+00 | pCi/L | | 3158.8 | ml | 05/31/06 10:15 | 06/13/06 | 15269 | Sec | U | No |
| ZN-65 | 2007 | 2.22E+00 | 5.15E+00 | 9.28E+00 | pCi/L | | 3158.8 | ml | 05/31/06 10:15 | 06/13/06 | 15269 | Sec | U | No |
| NB-95 | 2007 | 3.30E+00 | 2.88E+00 | 5.25E+00 | pCi/L | | 3158.8 | ml | 05/31/06 10:15 | 06/13/06 | 15269 | Sec | U | No |
| ZR-95 | 2007 | -1.23E+00 | 5.03E+00 | 8.55E+00 | pCi/L | | 3158.8 | ml | 05/31/06 10:15 | 06/13/06 | 15269 | Sec | U | No |
| CS-134 | 2007 | 5.85E+00 | 2.99E+00 | 5.01E+00 | pCi/L | | 3158.8 | ml | 05/31/06 10:15 | 06/13/06 | 15269 | Sec | U* | No |
| CS-137 | 2007 | -2.30E-01 | 2.72E+00 | 4.69E+00 | pCi/L | | 3158.8 | ml | 05/31/06 10:15 | 06/13/06 | 15269 | Sec | U | No |
| BA-140 | 2007 | 8.46E+00 | 1.79E+01 | 3.10E+01 | pCi/L | | 3158.8 | ml | 05/31/06 10:15 | 06/13/06 | 15269 | Sec | U | No |
| LA-140 | 2007 | 2.73E+00 | 5.41E+00 | 1.01E+01 | pCi/L | | 3158.8 | ml | 05/31/06 10:15 | 06/13/06 | 15269 | Sec | U | No |

Flag Values

- U = Compound/Analyte not detected or less than 3 sigma
- +
- U* = Activity concentration exceeds MDC and 3 sigma; peak identified(gamma only)
- High = Compound/Analyte not detected. Peak not identified, but forced activity concentration exceeds MDC and 3 sigma
- Spec = Activity concentration exceeds customer reporting value
- L = MDC exceeds customer technical specification
- H = Low recovery
- H = High recovery

- No = Peak not identified in gamma spectrum
- Yes = Peak identified in gamma spectrum
- **** Results are reported on an as received basis unless otherwise noted

MDC - Minimum Detectable Concentration

Bolded text indicates reportable value.

Report of Analysis

06/21/06 11:17

L28851

Conestoga-Rovers & Associates

EX001-3ESPDRES-06

Kathy Shaw

| | | |
|--|---------------------------------|---------------------------|
| Sample ID: WG-DN-MW-DN-1091-053106-JL-071 | Collect Start: 05/31/2006 10:25 | Matrix: Ground Water (WG) |
| Station: | Collect Stop: | Volume: |
| Description: | Receive Date: 06/07/2006 | % Moisture: |
| LIMS Number: L28851-15 | | |

| Radionuclide | SOP# | Activity Conc | Uncertainty 2 Sigma | MDC | Units | Run # | Aliquot Volume | Aliquot Units | Reference Date | Count Date | Count Time | Count Units | Flag Values | | |
|--------------|------|-----------------|---------------------|-----------------|--------|-------|----------------|---------------|----------------|------------|------------|-------------|-------------|------|----|
| H-3 | 2010 | 3.75E+03 | 4.24E+02 | 2.90E+02 | pCi/L | | 10 | ml | | 06/13/06 | 19.8 | M | + | High | |
| TOTAL SR | 2018 | 2.27E-01 | 6.80E-01 | 1.35E+00 | pCi/L | | 450 | ml | 05/31/06 10:25 | 06/20/06 | 120 | M | U | | |
| MN-54 | 2007 | 2.72E-02 | 2.57E+00 | 4.23E+00 | PCI/WG | | 3317.72 | ml | 05/31/06 10:25 | 06/13/06 | 26734 | Sec | U | | No |
| CO-58 | 2007 | -2.31E+00 | 2.94E+00 | 4.65E+00 | PCI/WG | | 3317.72 | ml | 05/31/06 10:25 | 06/13/06 | 26734 | Sec | U | | No |
| FE-59 | 2007 | 4.03E-01 | 5.84E+00 | 9.69E+00 | PCI/WG | | 3317.72 | ml | 05/31/06 10:25 | 06/13/06 | 26734 | Sec | U | | No |
| CO-60 | 2007 | 4.31E-01 | 2.82E+00 | 4.65E+00 | PCI/WG | | 3317.72 | ml | 05/31/06 10:25 | 06/13/06 | 26734 | Sec | U | | No |
| ZN-65 | 2007 | 8.65E+00 | 5.70E+00 | 1.02E+01 | PCI/WG | | 3317.72 | ml | 05/31/06 10:25 | 06/13/06 | 26734 | Sec | U | | No |
| NB-95 | 2007 | 9.66E-01 | 2.93E+00 | 4.93E+00 | PCI/WG | | 3317.72 | ml | 05/31/06 10:25 | 06/13/06 | 26734 | Sec | U | | No |
| ZR-95 | 2007 | 8.03E-01 | 5.31E+00 | 8.87E+00 | PCI/WG | | 3317.72 | ml | 05/31/06 10:25 | 06/13/06 | 26734 | Sec | U | | No |
| CS-134 | 2007 | 3.56E+00 | 3.99E+00 | 4.66E+00 | PCI/WG | | 3317.72 | ml | 05/31/06 10:25 | 06/13/06 | 26734 | Sec | U | | No |
| CS-137 | 2007 | -3.05E+00 | 2.94E+00 | 4.55E+00 | PCI/WG | | 3317.72 | ml | 05/31/06 10:25 | 06/13/06 | 26734 | Sec | U | | No |
| BA-140 | 2007 | -5.91E+00 | 1.84E+01 | 3.00E+01 | PCI/WG | | 3317.72 | ml | 05/31/06 10:25 | 06/13/06 | 26734 | Sec | U | | No |
| LA-140 | 2007 | -4.15E+00 | 6.36E+00 | 9.91E+00 | PCI/WG | | 3317.72 | ml | 05/31/06 10:25 | 06/13/06 | 26734 | Sec | U | | No |

Flag Values

U = Compound/Analyte not detected or less than 3 sigma
+ = Activity concentration exceeds MDC and 3 sigma; peak identified(gamma only)
U* = Compound/Analyte not detected. Peak not identified, but forced activity concentration exceeds MDC and 3 sigma
High = Activity concentration exceeds customer reporting value
Spec = MDC exceeds customer technical specification
L = Low recovery
H = High recovery

Bolded text indicates reportable value.

No = Peak not identified in gamma spectrum
Yes = Peak identified in gamma spectrum
**** Results are reported on an as received basis unless otherwise noted

MDC - Minimum Detectable Concentration

Report of Analysis

06/21/06 11:17

L28851

Conestoga-Rovers & Associates

EX001-3ESPDRES-06



TELEDYNE
BROWN ENGINEERING, INC.
A Teledyne Technologies Company

Kathy Shaw

| | | |
|--|---------------------------------|---------------------------|
| Sample ID: WG-DN-MW-DN-109S-053106-JL-072 | Collect Start: 05/31/2006 11:45 | Matrix: Ground Water (WG) |
| Station: | Collect Stop: | Volume: |
| Description: | Receive Date: 06/07/2006 | % Moisture: |
| LIMS Number: L28851-16 | | |

| Radionuclide | SOP# | Activity Conc | Uncertainty 2 Sigma | MDC | Units | Run # | Aliquot Volume | Aliquot Units | Reference Date | Count Date | Count Time | Count Units | Flag Values |
|--------------|------|-----------------|---------------------|-----------------|-------|-------|----------------|---------------|----------------|------------|------------|-------------|-------------|
| H-3 | 2010 | 2.51E+02 | 1.20E+02 | 1.71E+02 | pCi/L | | 10 | ml | | 06/13/06 | 60 | M | + |
| TOTAL SR | 2018 | 4.04E-01 | 6.87E-01 | 1.33E+00 | pCi/L | | 450 | ml | 05/31/06 11:45 | 06/20/06 | 120 | M | U |
| MN-54 | 2007 | 5.46E-01 | 2.39E+00 | 4.15E+00 | pCi/L | | 3238.78 | ml | 05/31/06 11:45 | 06/13/06 | 16889 | Sec | U |
| CO-58 | 2007 | -1.68E+00 | 2.52E+00 | 4.17E+00 | pCi/L | | 3238.78 | ml | 05/31/06 11:45 | 06/13/06 | 16889 | Sec | U |
| FE-59 | 2007 | -6.47E-01 | 6.43E+00 | 9.35E+00 | pCi/L | | 3238.78 | ml | 05/31/06 11:45 | 06/13/06 | 16889 | Sec | U |
| CO-60 | 2007 | -1.36E+00 | 2.22E+00 | 3.70E+00 | pCi/L | | 3238.78 | ml | 05/31/06 11:45 | 06/13/06 | 16889 | Sec | U |
| ZN-65 | 2007 | 9.42E+00 | 4.89E+00 | 9.30E+00 | pCi/L | | 3238.78 | ml | 05/31/06 11:45 | 06/13/06 | 16889 | Sec | U* |
| NB-95 | 2007 | 1.20E+00 | 2.51E+00 | 4.43E+00 | pCi/L | | 3238.78 | ml | 05/31/06 11:45 | 06/13/06 | 16889 | Sec | U |
| ZR-95 | 2007 | -1.47E+00 | 4.58E+00 | 7.74E+00 | pCi/L | | 3238.78 | ml | 05/31/06 11:45 | 06/13/06 | 16889 | Sec | U |
| CS-134 | 2007 | 2.60E+00 | 2.66E+00 | 4.23E+00 | pCi/L | | 3238.78 | ml | 05/31/06 11:45 | 06/13/06 | 16889 | Sec | U |
| CS-137 | 2007 | 1.14E+00 | 2.53E+00 | 4.45E+00 | pCi/L | | 3238.78 | ml | 05/31/06 11:45 | 06/13/06 | 16889 | Sec | U |
| BA-140 | 2007 | 6.47E+00 | 1.64E+01 | 2.82E+01 | pCi/L | | 3238.78 | ml | 05/31/06 11:45 | 06/13/06 | 16889 | Sec | U |
| LA-140 | 2007 | -1.66E+00 | 5.31E+00 | 9.19E+00 | pCi/L | | 3238.78 | ml | 05/31/06 11:45 | 06/13/06 | 16889 | Sec | U |

Flag Values

- U = Compound/Analyte not detected or less than 3 sigma
- +
- U* = Activity concentration exceeds MDC and 3 sigma; peak identified(gamma only)
- High = Compound/Analyte not detected. Peak not identified, but forced activity concentration exceeds MDC and 3 sigma
- Spec = Activity concentration exceeds customer reporting value
- L = MDC exceeds customer technical specification
- H = Low recovery
- H = High recovery

Bolded text indicates reportable value.

- No = Peak not identified in gamma spectrum
- Yes = Peak identified in gamma spectrum
- **** Results are reported on an as received basis unless otherwise noted

MDC - Minimum Detectable Concentration

Report of Analysis

06/21/06 11:17

L28851

Conestoga-Rovers & Associates

EX001-3ESPDRES-06

Kathy Shaw



TELEDYNE
BROWN ENGINEERING, INC.
A Teledyne Technologies Company

| | | |
|--|---------------------------------|---------------------------|
| Sample ID: WG-DN-MW-DN-111S-053106-JL-073 | Collect Start: 05/31/2006 14:00 | Matrix: Ground Water (WG) |
| Station: | Collect Stop: | Volume: |
| Description: | Receive Date: 06/07/2006 | % Moisture: |
| LIMS Number: L28851-17 | | |

| Radionuclide | SOP# | Activity Conc | Uncertainty 2 Sigma | MDC | Units | Run # | Aliquot Volume | Aliquot Units | Reference Date | Count Date | Count Time | Count Units | Flag Values |
|--------------|------|-----------------|---------------------|-----------------|-------|-------|----------------|---------------|----------------|------------|------------|-------------|-------------|
| H-3 | 2010 | 6.38E+02 | 1.40E+02 | 1.69E+02 | pCi/L | | 10 | ml | | 06/13/06 | 60 | M | + |
| TOTAL SR | 2018 | 2.35E-01 | 7.14E-01 | 1.42E+00 | pCi/L | | 450 | ml | 05/31/06 14:00 | 06/20/06 | 120 | M | U |
| MN-54 | 2007 | -1.19E+00 | 2.36E+00 | 3.73E+00 | pCi/L | | 2985.79 | ml | 05/31/06 14:00 | 06/13/06 | 21600 | Sec | U |
| CO-58 | 2007 | -1.52E+00 | 2.68E+00 | 4.23E+00 | pCi/L | | 2985.79 | ml | 05/31/06 14:00 | 06/13/06 | 21600 | Sec | U |
| FE-59 | 2007 | 4.61E+00 | 5.26E+00 | 9.04E+00 | pCi/L | | 2985.79 | ml | 05/31/06 14:00 | 06/13/06 | 21600 | Sec | U |
| CO-60 | 2007 | 1.15E+00 | 3.04E+00 | 4.82E+00 | pCi/L | | 2985.79 | ml | 05/31/06 14:00 | 06/13/06 | 21600 | Sec | U |
| ZN-65 | 2007 | 3.33E+00 | 4.84E+00 | 8.38E+00 | pCi/L | | 2985.79 | ml | 05/31/06 14:00 | 06/13/06 | 21600 | Sec | U |
| NB-95 | 2007 | 9.56E-01 | 2.59E+00 | 4.32E+00 | pCi/L | | 2985.79 | ml | 05/31/06 14:00 | 06/13/06 | 21600 | Sec | U |
| ZR-95 | 2007 | -5.12E+00 | 4.56E+00 | 7.00E+00 | pCi/L | | 2985.79 | ml | 05/31/06 14:00 | 06/13/06 | 21600 | Sec | U |
| CS-134 | 2007 | 2.71E+00 | 4.43E+00 | 4.14E+00 | pCi/L | | 2985.79 | ml | 05/31/06 14:00 | 06/13/06 | 21600 | Sec | U |
| CS-137 | 2007 | 1.61E+00 | 2.47E+00 | 4.21E+00 | pCi/L | | 2985.79 | ml | 05/31/06 14:00 | 06/13/06 | 21600 | Sec | U |
| BA-140 | 2007 | 5.14E+00 | 1.58E+01 | 2.63E+01 | pCi/L | | 2985.79 | ml | 05/31/06 14:00 | 06/13/06 | 21600 | Sec | U |
| LA-140 | 2007 | -1.79E+00 | 5.96E+00 | 9.54E+00 | pCi/L | | 2985.79 | ml | 05/31/06 14:00 | 06/13/06 | 21600 | Sec | U |

Flag Values

- U = Compound/Analyte not detected or less than 3 sigma
- +
- U* = Activity concentration exceeds MDC and 3 sigma; peak identified(gamma only)
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- H = High recovery

Bolded text indicates reportable value.

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MDC - Minimum Detectable Concentration

Report of Analysis

06/21/06 11:17

L28851

Conestoga-Rovers & Associates

EX001-3ESPDRES-06

Kathy Shaw

| Sample ID: WG-DN-MW-DN-107S-053106-JL-074 | | | | | | Collect Start: 05/31/2006 15:30 | | | | Matrix: Ground Water | | (WG) | | | | |
|--|------|-----------------|---------------------|-----------------|-------|---------------------------------|----------------|---------------|----------------|----------------------|------------|-------------|-------------|--|----|--|
| Station: | | | | | | Collect Stop: | | | | Volume: | | | | | | |
| Description: | | | | | | Receive Date: 06/07/2006 | | | | % Moisture: | | | | | | |
| LIMS Number: L28851-18 | | | | | | | | | | | | | | | | |
| Radionuclide | SOP# | Activity Conc | Uncertainty 2 Sigma | MDC | Units | Run # | Aliquot Volume | Aliquot Units | Reference Date | Count Date | Count Time | Count Units | Flag Values | | | |
| H-3 | 2010 | 1.04E+03 | 1.65E+02 | 1.77E+02 | pCi/L | | 10 | ml | | 06/13/06 | 54.4 | M | + | | | |
| TOTAL SR | 2018 | 1.16E+00 | 1.00E+00 | 1.83E+00 | pCi/L | | 450 | ml | 05/31/06 15:30 | 06/20/06 | 120 | M | U | | | |
| MN-54 | 2007 | 1.33E+00 | 2.02E+00 | 3.43E+00 | pCi/L | | 3063.42 | ml | 05/31/06 15:30 | 06/13/06 | 21600 | Sec | U | | No | |
| CO-58 | 2007 | 9.81E-02 | 2.17E+00 | 3.59E+00 | pCi/L | | 3063.42 | ml | 05/31/06 15:30 | 06/13/06 | 21600 | Sec | U | | No | |
| FE-59 | 2007 | 9.11E-01 | 4.47E+00 | 7.48E+00 | pCi/L | | 3063.42 | ml | 05/31/06 15:30 | 06/13/06 | 21600 | Sec | U | | No | |
| CO-60 | 2007 | -8.53E-01 | 2.15E+00 | 3.43E+00 | pCi/L | | 3063.42 | ml | 05/31/06 15:30 | 06/13/06 | 21600 | Sec | U | | No | |
| ZN-65 | 2007 | 4.57E+00 | 4.45E+00 | 7.75E+00 | pCi/L | | 3063.42 | ml | 05/31/06 15:30 | 06/13/06 | 21600 | Sec | U | | No | |
| NB-95 | 2007 | 4.99E-01 | 2.21E+00 | 3.71E+00 | pCi/L | | 3063.42 | ml | 05/31/06 15:30 | 06/13/06 | 21600 | Sec | U | | No | |
| ZR-95 | 2007 | -2.79E+00 | 4.05E+00 | 6.35E+00 | pCi/L | | 3063.42 | ml | 05/31/06 15:30 | 06/13/06 | 21600 | Sec | U | | No | |
| CS-134 | 2007 | 3.59E+00 | 3.48E+00 | 3.68E+00 | pCi/L | | 3063.42 | ml | 05/31/06 15:30 | 06/13/06 | 21600 | Sec | U | | No | |
| CS-137 | 2007 | 1.35E+00 | 2.08E+00 | 3.51E+00 | pCi/L | | 3063.42 | ml | 05/31/06 15:30 | 06/13/06 | 21600 | Sec | U | | No | |
| BA-140 | 2007 | -9.69E-01 | 1.40E+01 | 2.32E+01 | pCi/L | | 3063.42 | ml | 05/31/06 15:30 | 06/13/06 | 21600 | Sec | U | | No | |
| LA-140 | 2007 | -1.08E-01 | 4.65E+00 | 7.62E+00 | pCi/L | | 3063.42 | ml | 05/31/06 15:30 | 06/13/06 | 21600 | Sec | U | | No | |

Flag Values

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 + = Activity concentration exceeds MDC and 3 sigma; peak identified(gamma only)
 U* = Compound/Analyte not detected. Peak not identified, but forced activity concentration exceeds MDC and 3 sigma
 High = Activity concentration exceeds customer reporting value
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 L = Low recovery
 H = High recovery

Bolded text indicates reportable value.

No = Peak not identified in gamma spectrum
 Yes = Peak identified in gamma spectrum
 **** Results are reported on an as received basis unless otherwise noted

MDC - Minimum Detectable Concentration

QC Results Summary

QC Summary Report

for L28851

6/21/2006

12:18:55PM



H-3

Method Blank Summary

| <u>TBE Sample ID</u> | <u>Radionuclide</u> | <u>Matrix</u> | <u>Count Date/Time</u> | <u>Blank Result</u> | <u>Units</u> | <u>Qualifier</u> | <u>P/F</u> |
|----------------------|---------------------|---------------|------------------------|---------------------|--------------|------------------|------------|
| WG4115-1 | H-3 | WO | 06/11/2006 18:14 | < 1.640E+00 | pCi/Total | U | P |
| WG4122-1 | | WO | 06/13/2006 20:30 | < 1.790E-02 | pCi/Total | U | P |

LCS Sample Summary

| <u>TBE Sample ID</u> | <u>Radionuclide</u> | <u>Matrix</u> | <u>Count Date/Time</u> | <u>Spike Value</u> | <u>LCS Result</u> | <u>Units</u> | <u>Spike Recovery</u> | <u>Range</u> | <u>Qualifier</u> | <u>P/F</u> |
|--|---------------------|---------------|------------------------|--------------------|-------------------|--------------|-----------------------|--------------|------------------|------------|
| WG4115-2 | H-3 | WO | 06/11/2006 19:17 | 5.05E+002 | 5.380E+02 | pCi/Total | 106.6 | 70-130 | + | P |
| Spike ID: 3H-041706-1 Spike conc: 5.05E+002 Spike Vol: 1.00E+000 | | | | | | | | | | |
| WG4122-2 | | WO | 06/13/2006 21:33 | 5.05E+002 | 4.950E+02 | pCi/Total | 98.1 | 70-130 | + | P |
| Spike ID: 3H-041706-1 Spike conc: 5.05E+002 Spike Vol: 1.00E+000 | | | | | | | | | | |

Duplicate Summary

| <u>TBE Sample ID</u> | <u>Radionuclide</u> | <u>Matrix</u> | <u>Count Date/Time</u> | <u>Original Result</u> | <u>DUP Result</u> | <u>Units</u> | <u>RPD</u> | <u>Range</u> | <u>Qualifier</u> | <u>P/F</u> |
|-----------------------|---------------------|---------------|------------------------|------------------------|-------------------|--------------|------------|--------------|------------------|------------|
| WG4115-3 L28841-3 | H-3 | WG | 06/11/2006 19:35 | 4.400E+02 | 3.140E+02 | pCi/L | | <30 | * | NE |
| WG4122-3 L28851-11 | | WG | 06/13/2006 0:34 | < 1.720E+02 | < 1.710E+02 | pCi/L | | <30 | ** | NE |

+ Positive Result
 U Compound/analyte was analyzed, peak not identified and/or not detected above MDC
 * < 5 times the MDC are not evaluated
 ** Nuclide not detected
 *** Spiking level < 5 times activity
 P Pass
 F Fail
 NE Not evaluated

Page: 1

L28851 43 OF 145

QC Summary Report for L28851

6/21/2006 12:18:55PM



L28851 H-3

Associated Samples for

SAMPLENUM

L28851-1
L28851-2
L28851-3
L28851-4
L28851-5
L28851-6
L28851-7
L28851-8
L28851-9
L28851-10

WG4115

CLIENTID

WG-DN-DSP-149R-053106-JH-019
WG-DN-DSP-149R-053106-JH-020
WS-DN-SW-103-053106-JH-021
WG-DN-DSP-159S-053106-JH-022
WS-DN-SW-101-053106-JH-023
WS-DN-SW-102-053106-JH-024
WS-DN-SW-105-060106-JH-025
WS-DN-SW-104-060106-JH-026
WS-DN-SW-106-060106-JH-027
WS-DN-SW-106-060106-JH-028

Associated Samples for

SAMPLENUM

L28851-11
L28851-12
L28851-13
L28851-14
L28851-15
L28851-16
L28851-17
L28851-18

WG4122

CLIENTID

WG-DN-MW-DN-110S-053006-JL-067
WG-DN-MW-DN-110I-053006-JL-068
WG-DN-MW-DN-104S-053006-JL-069
WG-DN-MW-DN-109I-053106-JL-070
WG-DN-MW-DN-109I-053106-JL-071
WG-DN-MW-DN-109S-053106-JL-072
WG-DN-MW-DN-111S-053106-JL-073
WG-DN-MW-DN-107S-053106-JL-074

+ Positive Result
U Compound/analyte was analyzed, peak not identified and/or not detected above MDC
* < 5 times the MDC are not evaluated
** Nuclide not detected
*** Spiking level < 5 times activity
P Pass
F Fail
NE Not evaluated

Page: 2

L28851 44 OF 145

QC Summary Report for L28851

6/21/2006 12:18:55PM



TOTAL SR

Method Blank Summary

| <u>TBE Sample ID</u> | <u>Radionuclide</u> | <u>Matrix</u> | <u>Count Date/Time</u> | <u>Blank Result</u> | <u>Units</u> | <u>Qualifier</u> | <u>P/F</u> |
|----------------------|---------------------|---------------|------------------------|---------------------|--------------|------------------|------------|
| WG4161-1 | TOTAL SR | WO | 06/20/2006 18:09 | < 6.990E-01 | pCi/Total | U | P |

LCS Sample Summary

| <u>TBE Sample ID</u> | <u>Radionuclide</u> | <u>Matrix</u> | <u>Count Date/Time</u> | <u>Spike Value</u> | <u>LCS Result</u> | <u>Units</u> | <u>Spike Recovery</u> | <u>Range</u> | <u>Qualifier</u> | <u>P/F</u> |
|----------------------|---------------------|---------------|------------------------|--------------------|-------------------|--------------|-----------------------|--------------|------------------|------------|
| WG4161-2 | TOTAL SR | WO | 06/20/2006 18:09 | 5.84E+001 | 6.340E+01 | pCi/Total | 108.6 | 70-130 | + | P |

Spike ID: 90SR-011905

Spike conc: 2.34E+002

Spike Vol: 2.50E-001

Duplicate Summary

| <u>TBE Sample ID</u> | <u>Radionuclide</u> | <u>Matrix</u> | <u>Count Date/Time</u> | <u>Original Result</u> | <u>DUP Result</u> | <u>Units</u> | <u>RPD</u> | <u>Range</u> | <u>Qualifier</u> | <u>P/F</u> |
|----------------------|---------------------|---------------|------------------------|------------------------|-------------------|--------------|------------|--------------|------------------|------------|
| WG4161-3 L28851-1 | TOTAL SR | WG | 06/20/2006 18:09 | < 1.480E+00 | < 1.610E+00 | pCi/L | | <30 | ** | NE |

+ Positive Result
 U Compound/analyte was analyzed, peak not identified and/or not detected above MDC
 * < 5 times the MDC are not evaluated
 ** Nuclide not detected
 *** Spiking level < 5 times activity
 P Pass
 F Fail
 NE Not evaluated

Page: 3

L28851 45 OF 145

Raw Data

Work Order: L28851

Customer: Exelon

Page: 1

Nuclide: H-3

Project : EX001-3ESPDRES-06

| Sample ID | Run | Analysis | Reference | Volume/ | Scavenge | Milking | Mount | Count | Counter | Total | Sample | Bkg | Bkg | Eff. | Decay & Ingrowth | Analyst |
|------------------------|-----|-------------------|-----------|-----------------|-----------|-----------|--------|----------|-----------|--------|---------|--------|---------|--------|------------------|---------|
| Client ID | # | | Date/time | Aliquot | Date/time | Date/time | Weight | Recovery | ID | counts | dt(min) | counts | dt(min) | Factor | | |
| L28851-1 | | H-3 | | 10 ml | | | 0 | | 12-jun-06 | LS7 | 288 | 60 | 1.73 | 60 | .207 | SO |
| WG-DN-DSP-149R-053106- | | | | | | | | | 12:49 | | | | | | | |
| Activity: 6.68E+02 | | * Error: 1.44E+02 | | MDC: 1.72E+02 | | | | | | | | | | | | |
| L28851-2 | | H-3 | | 10 ml | | | 0 | | 12-jun-06 | LS7 | 298 | 60 | 1.73 | 60 | .211 | SO |
| WG-DN-DSP-149R-053106- | | | | | | | | | 13:53 | | | | | | | |
| Activity: 6.94E+02 | | * Error: 1.43E+02 | | MDC: 1.7E+02 | | | | | | | | | | | | |
| L28851-3 | | H-3 | | 10 ml | | | 0 | | 12-jun-06 | LS7 | 99 | 60 | 1.73 | 60 | .209 | EJ |
| WS-DN-SW-103-053106-JH | | | | | | | | | 14:57 | | | | | | | |
| Activity: -1.73E+01 | | Error: 1.03E+02 | | MDC: 1.71E+02 * | | | | | | | | | | | | |
| L28851-4 | | H-3 | | 10 ml | | | 0 | | 12-jun-06 | LS7 | 103 | 60 | 1.73 | 60 | .21 | EJ |
| WG-DN-DSP-159S-053106- | | | | | | | | | 16:01 | | | | | | | |
| Activity: -2.15E+00 | | Error: 1.03E+02 | | MDC: 1.7E+02 * | | | | | | | | | | | | |
| L28851-5 | | H-3 | | 10 ml | | | 0 | | 12-jun-06 | LS7 | 80 | 60 | 1.73 | 60 | .21 | EJ |
| WS-DN-SW-101-053106-JH | | | | | | | | | 17:05 | | | | | | | |
| Activity: -8.58E+01 | | Error: 9.69E+01 | | MDC: 1.7E+02 * | | | | | | | | | | | | |
| L28851-6 | | H-3 | | 10 ml | | | 0 | | 12-jun-06 | LS7 | 94 | 60 | 1.73 | 60 | .209 | EJ |
| WS-DN-SW-102-053106-JH | | | | | | | | | 18:09 | | | | | | | |
| Activity: -3.66E+01 | | Error: 1.01E+02 | | MDC: 1.71E+02 * | | | | | | | | | | | | |
| L28851-7 | | H-3 | | 10 ml | | | 0 | | 12-jun-06 | LS7 | 113 | 60 | 1.73 | 60 | .216 | EJ |
| WS-DN-SW-105-060106-JH | | | | | | | | | 19:13 | | | | | | | |
| Activity: 3.13E+01 | | Error: 1.02E+02 | | MDC: 1.65E+02 * | | | | | | | | | | | | |
| L28851-8 | | H-3 | | 10 ml | | | 0 | | 12-jun-06 | LS7 | 90 | 60 | 1.73 | 60 | .213 | EJ |
| WS-DN-SW-104-060106-JH | | | | | | | | | 20:17 | | | | | | | |
| Activity: -4.88E+01 | | Error: 9.84E+01 | | MDC: 1.68E+02 * | | | | | | | | | | | | |
| L28851-9 | | H-3 | | 10 ml | | | 0 | | 12-jun-06 | LS7 | 89 | 60 | 1.73 | 60 | .212 | EJ |
| WS-DN-SW-106-060106-JH | | | | | | | | | 21:21 | | | | | | | |
| Activity: -5.31E+01 | | Error: 9.83E+01 | | MDC: 1.68E+02 * | | | | | | | | | | | | |
| L28851-10 | | H-3 | | 10 ml | | | 0 | | 12-jun-06 | LS7 | 119 | 60 | 1.73 | 60 | .21 | EJ |
| WS-DN-SW-106-060106-JH | | | | | | | | | 22:25 | | | | | | | |
| Activity: 5.38E+01 | | Error: 1.07E+02 | | MDC: 1.7E+02 * | | | | | | | | | | | | |
| L28851-11 | | H-3 | | 10 ml | | | 0 | | 12-jun-06 | LS7 | 130 | 60 | 1.73 | 60 | .208 | EJ |
| WG-DN-MW-DN-110S-05300 | | | | | | | | | 23:30 | | | | | | | |
| Activity: 9.55E+01 | | Error: 1.11E+02 | | MDC: 1.72E+02 * | | | | | | | | | | | | |
| L28851-12 | | H-3 | | 10 ml | | | 0 | | 13-jun-06 | LS7 | 248 | 60 | 1.73 | 60 | .211 | EJ |
| WG-DN-MW-DN-110I-05300 | | | | | | | | | 01:38 | | | | | | | |
| Activity: 5.16E+02 | | * Error: 1.34E+02 | | MDC: 1.7E+02 | | | | | | | | | | | | |
| L28851-13 | | H-3 | | 10 ml | | | 0 | | 13-jun-06 | LS7 | 135 | 60 | 1.73 | 60 | .207 | EJ |
| WG-DN-MW-DN-104S-05300 | | | | | | | | | 02:42 | | | | | | | |
| Activity: 1.13E+02 | | Error: 1.12E+02 | | MDC: 1.73E+02 * | | | | | | | | | | | | |
| L28851-14 | | H-3 | | 10 ml | | | 0 | | 13-jun-06 | LS7 | 387 | 21.07 | 1.73 | 60 | .207 | EJ |
| WG-DN-MW-DN-109I-05310 | | | | | | | | | 03:46 | | | | | | | |
| Activity: 3.62E+03 | | * Error: 4.13E+02 | | MDC: 2.91E+02 | | | | | | | | | | | | |
| L28851-15 | | H-3 | | 10 ml | | | 0 | | 13-jun-06 | LS7 | 387 | 19.8 | 1.73 | 60 | .215 | EJ |
| WG-DN-MW-DN-109I-05310 | | | | | | | | | 04:11 | | | | | | | |
| Activity: 3.75E+03 | | * Error: 4.24E+02 | | MDC: 2.9E+02 | | | | | | | | | | | | |
| L28851-16 | | H-3 | | 10 ml | | | 0 | | 13-jun-06 | LS7 | 173 | 60 | 1.73 | 60 | .209 | EJ |
| WG-DN-MW-DN-109S-05310 | | | | | | | | | 04:34 | | | | | | | |
| Activity: 2.51E+02 | | * Error: 1.2E+02 | | MDC: 1.71E+02 | | | | | | | | | | | | |

Work Order: L28851

Customer: Exelon

Page: 2

Nuclide: H-3

Project : EX001-3ESPDRES-06

| Sample ID | Run | Analysis | Reference | Volume/ | Scavenge | Milking | Mount | Count | Counter | Total | Sample | Bkg | Bkg | Decay & | Analyst |
|--------------------------------------|-----|----------|-----------|---------------|-----------|-----------|--------|----------|-----------|-------|--------|----------|--------|----------|---------|
| Client ID | # | | Date/time | Aliquot | Date/time | Date/time | Weight | Recovery | Date/time | ID | counts | dt (min) | counts | dt (min) | Factor |
| L28851-17 | | H-3 | | | | | 0 | | 13-jun-06 | LS7 | 283 | 60 | 1.73 | 60 | .211 |
| WG-DN-MW-DN-111S-05310 | | | | 10 ml | | | | | 05:38 | | | | | | |
| Activity: 6.38E+02 * Error: 1.4E+02 | | | | MDC: 1.69E+02 | | | | | | | | | | | |
| L28851-18 | | H-3 | | | | | 0 | | 13-jun-06 | LS7 | 359 | 54.4 | 1.73 | 60 | .212 |
| WG-DN-MW-DN-107S-05310 | | | | 10 ml | | | | | 06:43 | | | | | | |
| Activity: 1.04E+03 * Error: 1.65E+02 | | | | MDC: 1.77E+02 | | | | | | | | | | | |

Work Order: L28851

Customer: Exelon

Nuclide: SR-90 (FAST)

Project : EX001-3ESPDRES-06

| Sample ID | Run | Analysis | Reference | Volume/ | Scavenge | Milking | Mount | Count | Counter | Total | Sample | Bkg | Bkg | Eff. | Ingrowth | Analyst |
|------------------------|-----|-----------------|-----------|-----------------|-----------|-----------|--------|----------|---------|--------|----------|--------|----------|--------|----------|---------|
| Client ID | # | | Date/time | Aliquot | Date/time | Date/time | Weight | Recovery | ID | counts | dt (min) | counts | dt (min) | Factor | | |
| L28851-1 | | TOTAL SR | 31-may-06 | | 20-jun-06 | | 0 | | X1A | 103 | 120 | 308 | 400 | .346 | .999 | LCB |
| WG-DN-DSP-149R-053106- | | | 10:00 | 450 ml | 13:00 | | | 73.12 | | 18:05 | | | | | | |
| Activity: 3.5E-01 | | Error: 7.55E-01 | | MDC: 1.48E+00 * | | | | | | | | | | | | |
| L28851-2 | | TOTAL SR | 31-may-06 | | 20-jun-06 | | 0 | | X1B | 136 | 120 | 342 | 400 | .343 | .999 | LCB |
| WG-DN-DSP-149R-053106- | | | 10:40 | 450 ml | 13:00 | | | 64.52 | | 18:05 | | | | | | |
| Activity: 1.26E+00 | | Error: 9.74E-01 | | MDC: 1.78E+00 * | | | | | | | | | | | | |
| L28851-3 | | TOTAL SR | 31-may-06 | | 20-jun-06 | | 0 | | X1C | 112 | 120 | 289 | 400 | .354 | .999 | LCB |
| WS-DN-SW-103-053106-JH | | | 11:40 | 450 ml | 13:00 | | | 91.40 | | 18:05 | | | | | | |
| Activity: 6.53E-01 | | Error: 6.07E-01 | | MDC: 1.12E+00 * | | | | | | | | | | | | |
| L28851-4 | | TOTAL SR | 31-may-06 | | 20-jun-06 | | 0 | | X1D | 135 | 120 | 312 | 400 | .344 | .999 | LCB |
| WG-DN-DSP-159S-053106- | | | 13:30 | 450 ml | 13:00 | | | 111.83 | | 18:05 | | | | | | |
| Activity: 8.99E-01 | | Error: 5.54E-01 | | MDC: 9.79E-01 * | | | | | | | | | | | | |
| L28851-5 | | TOTAL SR | 31-may-06 | | 20-jun-06 | | 0 | | X2A | 116 | 120 | 264 | 400 | .354 | .999 | LCB |
| WS-DN-SW-101-053106-JH | | | 14:30 | 450 ml | 13:00 | | | 65.86 | | 18:05 | | | | | | |
| Activity: 1.32E+00 | | Error: 8.46E-01 | | MDC: 1.48E+00 * | | | | | | | | | | | | |
| L28851-6 | | TOTAL SR | 31-may-06 | | 20-jun-06 | | 0 | | X2B | 114 | 120 | 289 | 400 | .345 | .999 | LCB |
| WS-DN-SW-102-053106-JH | | | 15:20 | 450 ml | 13:00 | | | 65.05 | | 18:05 | | | | | | |
| Activity: 1.02E+00 | | Error: 8.81E-01 | | MDC: 1.61E+00 * | | | | | | | | | | | | |
| L28851-7 | | TOTAL SR | 01-jun-06 | | 20-jun-06 | | 0 | | Y1D | 96 | 100 | 305 | 400 | .362 | .999 | LCB |
| WS-DN-SW-105-060106-JH | | | 09:00 | 450 ml | 13:00 | | | 79.03 | | 00:37 | | | | | | |
| Activity: 6.92E-01 | | Error: 7.52E-01 | | MDC: 1.43E+00 * | | | | | | | | | | | | |
| L28851-8 | | TOTAL SR | 01-jun-06 | | 20-jun-06 | | 0 | | X2D | 136 | 120 | 307 | 400 | .343 | .999 | LCB |
| WS-DN-SW-104-060106-JH | | | 09:40 | 450 ml | 13:00 | | | 64.25 | | 18:05 | | | | | | |
| Activity: 1.66E+00 | | Error: 9.69E-01 | | MDC: 1.69E+00 * | | | | | | | | | | | | |
| L28851-9 | | TOTAL SR | 01-jun-06 | | 20-jun-06 | | 0 | | X3A | 135 | 120 | 363 | 400 | .335 | .999 | LCB |
| WS-DN-SW-106-060106-JH | | | 11:20 | 450 ml | 13:00 | | | 72.31 | | 18:05 | | | | | | |
| Activity: 8.99E-01 | | Error: 8.92E-01 | | MDC: 1.68E+00 * | | | | | | | | | | | | |
| L28851-10 | | TOTAL SR | 01-jun-06 | | 20-jun-06 | | 0 | | X3B | 129 | 120 | 321 | 400 | .343 | .999 | LCB |
| WS-DN-SW-106-060106-JH | | | 11:45 | 450 ml | 13:00 | | | 63.71 | | 18:05 | | | | | | |
| Activity: 1.25E+00 | | Error: 9.6E-01 | | MDC: 1.75E+00 * | | | | | | | | | | | | |
| L28851-11 | | TOTAL SR | 30-may-06 | | 20-jun-06 | | 0 | | X3C | 130 | 120 | 294 | 400 | .345 | .999 | LCB |
| WG-DN-MW-DN-110S-05300 | | | 14:10 | 450 ml | 13:00 | | | 84.68 | | 18:05 | | | | | | |
| Activity: 1.2E+00 | | Error: 7.15E-01 | | MDC: 1.25E+00 * | | | | | | | | | | | | |
| L28851-12 | | TOTAL SR | 30-may-06 | | 20-jun-06 | | 0 | | X4A | 99 | 120 | 284 | 400 | .358 | .999 | LCB |
| WG-DN-MW-DN-110I-05300 | | | 15:15 | 450 ml | 13:00 | | | 69.89 | | 18:05 | | | | | | |
| Activity: 4.61E-01 | | Error: 7.46E-01 | | MDC: 1.44E+00 * | | | | | | | | | | | | |
| L28851-13 | | TOTAL SR | 30-may-06 | | 20-jun-06 | | 0 | | X4C | 80 | 120 | 299 | 400 | .35 | .999 | LCB |
| WG-DN-MW-DN-104S-05300 | | | 17:20 | 450 ml | 13:00 | | | 87.63 | | 18:05 | | | | | | |
| Activity: -2.64E-01 | | Error: 5.63E-01 | | MDC: 1.2E+00 * | | | | | | | | | | | | |
| L28851-14 | | TOTAL SR | 31-may-06 | | 20-jun-06 | | 0 | | X4D | 128 | 120 | 340 | 400 | .353 | .999 | LCB |
| WG-DN-MW-DN-109I-05310 | | | 10:15 | 450 ml | 13:00 | | | 75.00 | | 18:05 | | | | | | |
| Activity: 8.21E-01 | | Error: 7.95E-01 | | MDC: 1.49E+00 * | | | | | | | | | | | | |
| L28851-15 | | TOTAL SR | 31-may-06 | | 20-jun-06 | | 0 | | Y1D | 99 | 120 | 305 | 400 | .362 | .999 | LCB |
| WG-DN-MW-DN-109I-05310 | | | 10:25 | 450 ml | 13:00 | | | 76.34 | | 18:09 | | | | | | |
| Activity: 2.27E-01 | | Error: 6.8E-01 | | MDC: 1.35E+00 * | | | | | | | | | | | | |
| L28851-16 | | TOTAL SR | 31-may-06 | | 20-jun-06 | | 0 | | Y2A | 97 | 120 | 280 | 400 | .349 | .999 | LCB |
| WG-DN-MW-DN-109S-05310 | | | 11:45 | 450 ml | 13:00 | | | 77.15 | | 18:09 | | | | | | |
| Activity: 4.04E-01 | | Error: 6.87E-01 | | MDC: 1.33E+00 * | | | | | | | | | | | | |

Raw Data Sheet (rawdata)
Jun 21 2006, 11:31 am

Work Order: L28851

Customer: Exelon

Page: 4

Nuclide: SR-90 (FAST)

Project : EX001-3ESPDRES-06

| Sample ID | Run | Analysis | Reference | Volume/ | Scavenge | Milking | Mount | Count | Counter | Total | Sample | Bkg | Bkg | Eff. | Decay & Ingrowth | Analyst |
|--|-----|----------|-----------|---------|-----------|-----------|--------|----------|-----------|-------|--------|---------|--------|---------|------------------|---------|
| Client ID | # | | Date/time | Aliquot | Date/time | Date/time | Weight | Recovery | Date/time | ID | counts | dt(min) | counts | dt(min) | Factor | |
| L28851-17 | | TOTAL SR | 31-may-06 | | 20-jun-06 | | 0 | | 20-jun-06 | Y2B | 102 | 120 | 315 | 400 | .356 .999 | LCB |
| WG-DN-MW-DN-111S-05310 | | | 14:00 | 450 ml | 13:00 | | | 75.00 | 18:09 | | | | | | | |
| Activity: 2.35E-01 Error: 7.14E-01 MDC: 1.42E+00 * | | | | | | | | | | | | | | | | |
| L28851-18 | | TOTAL SR | 31-may-06 | | 20-jun-06 | | 0 | | 20-jun-06 | Y2C | 107 | 120 | 268 | 400 | .35 .999 | LCB |
| WG-DN-MW-DN-107S-05310 | | | 15:30 | 450 ml | 13:00 | | | 54.57 | 18:09 | | | | | | | |
| Activity: 1.16E+00 Error: 1E+00 MDC: 1.83E+00 * | | | | | | | | | | | | | | | | |

Sec. Review: Analyst: *[Signature]* LIMS: ☒

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VAX/VMS Teledyne Brown Eng. Laboratory Gamma Report: 13-JUN-2006 13:19:01.23
 TBE13 P-10727B HpGe ***** Aquisition Date/Time: 13-JUN-2006 10:02:15.18

LIMS No., Customer Name, Client ID: WG WG4124-1 DRESDEN

| | | | |
|---------------|-----------------|---------------|-----------------------|
| Sample ID | : 13WG4124-1 | Smple Date: | 31-MAY-2006 10:00:00. |
| Sample Type | : WG | Geometry | : 133L082404 |
| Quantity | : 3.09670E+00 L | BKGFILE | : 13BG060306MT |
| Start Channel | : 25 | Energy Tol | : 1.50000 |
| End Channel | : 4090 | Pk Srch Sens: | 5.00000 |
| MDA Constant | : 0.00 | Library Used: | LIBD |
| | | Real Time | : 0 03:16:34.34 |
| | | Live time | : 0 03:16:31.01 |

| Pk | It | Energy | Area | Bkgnd | FWHM | Channel | %Eff | Cts/Sec | %Err | Fit |
|----|----|----------|------|-------|------|---------|----------|----------|-------|----------|
| 1 | 2 | 139.84* | 76 | 319 | 1.26 | 279.65 | 2.27E+00 | 6.47E-03 | 44.9 | 1.85E+00 |
| 2 | 2 | 143.54* | 51 | 302 | 1.27 | 287.04 | 2.28E+00 | 4.35E-03 | 64.4 | |
| 3 | 1 | 185.88* | 32 | 394 | 1.21 | 371.74 | 2.18E+00 | 2.70E-03 | 133.4 | 2.87E+00 |
| 4 | 1 | 198.13* | 130 | 360 | 2.61 | 396.23 | 2.13E+00 | 1.10E-02 | 31.6 | 2.28E+00 |
| 5 | 1 | 238.33* | 16 | 283 | 1.08 | 476.64 | 1.94E+00 | 1.34E-03 | 212.4 | 3.46E+00 |
| 6 | 1 | 583.19* | 2 | 95 | 1.63 | 1166.52 | 1.04E+00 | 2.07E-04 | 916.9 | 1.12E+00 |
| 7 | 1 | 596.85 | 51 | 132 | 1.50 | 1193.84 | 1.02E+00 | 4.35E-03 | 49.5 | 6.96E+00 |
| 8 | 1 | 608.98* | 39 | 99 | 1.48 | 1218.12 | 1.01E+00 | 3.35E-03 | 58.1 | 1.90E+00 |
| 9 | 1 | 1000.14* | 77 | 16 | 5.20 | 2000.84 | 6.84E-01 | 6.57E-03 | 15.3 | 1.12E+01 |
| 10 | 1 | 1461.27* | 1 | 56 | 2.19 | 2923.84 | 5.14E-01 | 4.49E-05 | ***** | 4.41E-01 |
| 11 | 1 | 1765.79 | 41 | 27 | 5.38 | 3533.53 | 4.55E-01 | 3.49E-03 | 36.3 | 2.29E+00 |

Flag: "*" = Peak area was modified by background subtraction

Nuclide Line Activity Report

Nuclide Type: natural

| Nuclide | Energy | Area | %Abn | %Eff | Uncorrected pCi/L | Decay Corr pCi/L | 2-Sigma %Error |
|---------|---------|-------|--------|-----------|----------------------|---------------------|-------------------|
| K-40 | 1460.81 | 1 | 10.67* | 5.142E-01 | 7.147E-01 | 7.147E-01 | 8160.85 |
| RA-226 | 186.21 | 32 | 3.28* | 2.178E+00 | 3.293E+01 | 3.293E+01 | 266.90 |
| TH-228 | 238.63 | 16 | 44.60* | 1.939E+00 | 1.355E+00 | 1.373E+00 | 424.82 |
| | 240.98 | ----- | 3.95 | 1.927E+00 | ----- | Line Not Found | ----- |
| U-235 | 143.76 | 51 | 10.50* | 2.277E+00 | 1.587E+01 | 1.587E+01 | 128.80 |
| | 163.35 | ----- | 4.70 | 2.256E+00 | ----- | Line Not Found | ----- |
| | 185.71 | 32 | 54.00 | 2.178E+00 | 2.000E+00 | 2.000E+00 | 266.90 |
| | 205.31 | ----- | 4.70 | 2.093E+00 | ----- | Line Not Found | ----- |
| U-238 | 766.41 | ----- | 0.21 | 8.425E-01 | ----- | Line Not Found | ----- |
| | 1001.03 | 77 | 0.92* | 6.843E-01 | 9.106E+02 | 9.106E+02 | 30.69 |

Flag: "*" = Keyline

Summary of Nuclide Activity
 Sample ID : 13WG4124-1

Page : 2
 Acquisition date : 13-JUN-2006 10:02:15

Total number of lines in spectrum 11
 Number of unidentified lines 5
 Number of lines tentatively identified by NID 6 54.55%

Nuclide Type : natural

| Nuclide | Hlife | Decay | Uncorrected pCi/L | Decay Corr pCi/L | Decay Corr 2-Sigma Error | 2-Sigma %Error | Flags |
|------------------|-----------|-------|----------------------|---------------------|-----------------------------|-------------------|-------|
| K-40 | 1.28E+09Y | 1.00 | 7.147E-01 | 7.147E-01 | 583.3E-01 | 8160.85 | |
| RA-226 | 1600.00Y | 1.00 | 3.293E+01 | 3.293E+01 | 8.789E+01 | 266.90 | |
| TH-228 | 1.91Y | 1.01 | 1.355E+00 | 1.373E+00 | 5.833E+00 | 424.82 | |
| U-235 | 7.04E+08Y | 1.00 | 1.587E+01 | 1.587E+01 | 2.044E+01 | 128.80 | |
| U-238 | 4.47E+09Y | 1.00 | 9.106E+02 | 9.106E+02 | 2.795E+02 | 30.69 | |
| Total Activity : | | | 9.614E+02 | 9.615E+02 | | | |

Grand Total Activity : 9.614E+02 9.615E+02

Flags: "K" = Keyline not found
 "E" = Manually edited

"M" = Manually accepted
 "A" = Nuclide specific abn. limit

Unidentified Energy Lines
Sample ID : 13WG4124-1

Page : 3
Acquisition date : 13-JUN-2006 10:02:15

| It | Energy | Area | Bkgnd | FWHM | Channel | Left | Pw | Cts/Sec | %Err | %Eff | Flags |
|----|---------|------|-------|------|---------|------|----|----------|------|----------|-------|
| 2 | 139.84 | 76 | 319 | 1.26 | 279.65 | 276 | 18 | 6.47E-03 | 89.8 | 2.27E+00 | |
| 1 | 198.13 | 130 | 360 | 2.61 | 396.23 | 391 | 12 | 1.10E-02 | 63.1 | 2.13E+00 | |
| 1 | 583.19 | 2 | 95 | 1.63 | 1166.52 | 1161 | 12 | 2.07E-04 | **** | 1.04E+00 | T |
| 1 | 596.85 | 51 | 132 | 1.50 | 1193.84 | 1185 | 14 | 4.35E-03 | 98.9 | 1.02E+00 | |
| 1 | 608.98 | 39 | 99 | 1.48 | 1218.12 | 1214 | 11 | 3.35E-03 | **** | 1.01E+00 | |
| 1 | 1765.79 | 41 | 27 | 5.38 | 3533.53 | 3523 | 21 | 3.49E-03 | 72.6 | 4.55E-01 | |

Flags: "T" = Tentatively associated

Summary of Nuclide Activity

| | | |
|---|----|--------|
| Total number of lines in spectrum | 11 | |
| Number of unidentified lines | 5 | |
| Number of lines tentatively identified by NID | 6 | 54.55% |

Nuclide Type : natural

| Nuclide | Hlife | Decay | Wtd Mean | Wtd Mean | Decay Corr | 2-Sigma | Error | %Error | Flags |
|------------------|-----------|-------|-------------|------------|------------|---------|-------|--------|-------|
| | | | Uncorrected | Decay Corr | | | | | |
| | | | pCi/L | pCi/L | | | | | |
| K-40 | 1.28E+09Y | 1.00 | 7.147E-01 | 7.147E-01 | 583.3E-01 | 8160.85 | | | |
| TH-228 | 1.91Y | 1.01 | 1.355E+00 | 1.373E+00 | 5.833E+00 | 424.82 | | | |
| U-235 | 7.04E+08Y | 1.00 | 2.886E+00 | 2.886E+00 | 5.165E+00 | 179.00 | | | |
| U-238 | 4.47E+09Y | 1.00 | 9.106E+02 | 9.106E+02 | 2.795E+02 | 30.69 | | | |
| Total Activity : | | | 9.155E+02 | 9.155E+02 | | | | | |

Grand Total Activity : 9.155E+02 9.155E+02

Flags: "K" = Keyline not found "M" = Manually accepted
"E" = Manually edited "A" = Nuclide specific abn. limit

Interference Report

| Interfering | | Interfered | |
|-------------|--------|------------|--------|
| Nuclide | Line | Nuclide | Line |
| U-235 | 185.71 | RA-226 | 186.21 |

Combined Activity-MDA Report

---- Identified Nuclides ----

| Nuclide | Activity (pCi/L) | Act error | MDA (pCi/L) | MDA error | Act/MDA |
|---------|---------------------|-----------|----------------|-----------|---------|
| K-40 | 7.147E-01 | 5.833E+01 | 4.838E+01 | 0.000E+00 | 0.015 |
| TH-228 | 1.373E+00 | 5.833E+00 | 8.109E+00 | 0.000E+00 | 0.169 |
| U-235 | 2.886E+00 | 5.165E+00 | 3.308E+01 | 0.000E+00 | 0.087 |
| U-238 | 9.106E+02 | 2.795E+02 | 5.049E+02 | 0.000E+00 | 1.803 |


---- Non-Identified Nuclides ----

| Nuclide | Key-Line Activity (pCi/L) | K.L. Ided | Act error | MDA (pCi/L) | MDA error | Act/MDA |
|---------|---------------------------------|--------------|-----------|---------------------|-----------|---------|
| BE-7 | -8.524E+00 | | 2.877E+01 | 4.589E+01 | 0.000E+00 | -0.186 |
| NA-24 | 1.352E-01 | | 2.941E+00 | Half-Life too short | | |
| CR-51 | -1.751E+01 | | 3.159E+01 | 5.145E+01 | 0.000E+00 | -0.340 |
| MN-54 | 6.632E-01 | | 2.842E+00 | 4.742E+00 | 0.000E+00 | 0.140 |
| CO-57 | 4.402E-01 | | 2.684E+00 | 4.421E+00 | 0.000E+00 | 0.100 |
| CO-58 | 6.167E-01 | | 3.142E+00 | 5.239E+00 | 0.000E+00 | 0.118 |
| FE-59 | 3.487E+00 | | 6.687E+00 | 1.142E+01 | 0.000E+00 | 0.305 |
| CO-60 | -2.442E-01 | | 2.867E+00 | 4.703E+00 | 0.000E+00 | -0.052 |
| ZN-65 | -1.126E+00 | | 6.537E+00 | 1.060E+01 | 0.000E+00 | -0.106 |
| SE-75 | 3.717E+00 | | 3.876E+00 | 6.552E+00 | 0.000E+00 | 0.567 |
| SR-85 | 2.063E+01 | | 3.752E+00 | 7.429E+00 | 0.000E+00 | 2.777 |
| Y-88 | -1.492E+00 | | 3.444E+00 | 5.379E+00 | 0.000E+00 | -0.277 |
| NB-94 | -2.182E-01 | | 2.781E+00 | 4.609E+00 | 0.000E+00 | -0.047 |
| NB-95 | 3.567E+00 | | 3.238E+00 | 5.704E+00 | 0.000E+00 | 0.625 |
| ZR-95 | -5.423E+00 | | 5.646E+00 | 8.767E+00 | 0.000E+00 | -0.619 |
| MO-99 | -1.903E+02 | | 5.301E+02 | 8.580E+02 | 0.000E+00 | -0.222 |
| RU-103 | 2.147E+00 | | 3.418E+00 | 5.862E+00 | 0.000E+00 | 0.366 |
| RU-106 | -8.968E+00 | | 2.721E+01 | 4.367E+01 | 0.000E+00 | -0.205 |
| AG-110m | 1.459E-01 | | 2.808E+00 | 4.591E+00 | 0.000E+00 | 0.032 |
| SN-113 | -2.430E+00 | | 3.739E+00 | 5.952E+00 | 0.000E+00 | -0.408 |
| SB-124 | -2.300E+00 | | 7.545E+00 | 5.164E+00 | 0.000E+00 | -0.445 |
| SB-125 | 3.036E+00 | | 7.922E+00 | 1.318E+01 | 0.000E+00 | 0.230 |
| TE-129M | 8.661E+00 | | 4.068E+01 | 6.682E+01 | 0.000E+00 | 0.130 |
| I-131 | -7.996E+00 | | 8.263E+00 | 1.303E+01 | 0.000E+00 | -0.614 |
| BA-133 | 3.422E-01 | | 3.859E+00 | 6.406E+00 | 0.000E+00 | 0.053 |
| CS-134 | 2.045E+00 | | 6.703E+00 | 5.207E+00 | 0.000E+00 | 0.393 |
| CS-136 | -5.413E-01 | | 5.328E+00 | 8.704E+00 | 0.000E+00 | -0.062 |
| CS-137 | 3.677E-01 | | 3.297E+00 | 5.268E+00 | 0.000E+00 | 0.070 |
| CE-139 | 1.251E+00 | | 2.876E+00 | 4.702E+00 | 0.000E+00 | 0.266 |
| BA-140 | -2.318E+00 | | 1.947E+01 | 3.201E+01 | 0.000E+00 | -0.072 |
| LA-140 | 8.192E+00 | | 7.018E+00 | 1.264E+01 | 0.000E+00 | 0.648 |
| CE-141 | 4.531E+00 | | 6.833E+00 | 9.783E+00 | 0.000E+00 | 0.463 |
| CE-144 | -1.475E+01 | | 2.345E+01 | 3.326E+01 | 0.000E+00 | -0.444 |
| EU-152 | -1.401E+01 | | 9.006E+00 | 1.398E+01 | 0.000E+00 | -1.002 |
| EU-154 | 3.040E+00 | | 5.502E+00 | 9.164E+00 | 0.000E+00 | 0.332 |
| RA-226 | 3.293E+01 | | 8.789E+01 | 1.238E+02 | 0.000E+00 | 0.266 |
| AC-228 | -7.090E+00 | | 1.229E+01 | 1.890E+01 | 0.000E+00 | -0.375 |
| TH-232 | -7.060E+00 | | 1.224E+01 | 1.882E+01 | 0.000E+00 | -0.375 |
| AM-241 | -3.275E+01 | | 2.429E+01 | 3.752E+01 | 0.000E+00 | -0.873 |


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A,13WG4124-1      ,06/13/2006 13:19,05/31/2006 10:00,    3.097E+00,WG WG4124-1 DR
B,13WG4124-1      ,LIBD      ,06/13/2006 09:43,133L082404
C,K-40      ,YES,    7.147E-01,    5.833E+01,    4.838E+01,,    0.015
C,TH-228    ,YES,    1.373E+00,    5.833E+00,    8.109E+00,,    0.169
C,U-235     ,YES,    2.886E+00,    5.165E+00,    3.308E+01,,    0.087
C,U-238     ,YES,    9.106E+02,    2.795E+02,    5.049E+02,,    1.803
C,BE-7      ,NO ,    -8.524E+00,    2.877E+01,    4.589E+01,,   -0.186
C,CR-51     ,NO ,    -1.751E+01,    3.159E+01,    5.145E+01,,   -0.340
C,MN-54     ,NO ,    6.632E-01,    2.842E+00,    4.742E+00,,    0.140
C,CO-57     ,NO ,    4.402E-01,    2.684E+00,    4.421E+00,,    0.100
C,CO-58     ,NO ,    6.167E-01,    3.142E+00,    5.239E+00,,    0.118
C,FE-59     ,NO ,    3.487E+00,    6.687E+00,    1.142E+01,,    0.305
C,CO-60     ,NO ,    -2.442E-01,    2.867E+00,    4.703E+00,,   -0.052
C,ZN-65     ,NO ,    -1.126E+00,    6.537E+00,    1.060E+01,,   -0.106
C,SE-75     ,NO ,    3.717E+00,    3.876E+00,    6.552E+00,,    0.567
C,SR-85     ,NO ,    2.063E+01,    3.752E+00,    7.429E+00,,    2.777
C,Y-88      ,NO ,    -1.492E+00,    3.444E+00,    5.379E+00,,   -0.277
C,NB-94     ,NO ,    -2.182E-01,    2.781E+00,    4.609E+00,,   -0.047
C,NB-95     ,NO ,    3.567E+00,    3.238E+00,    5.704E+00,,    0.625
C,ZR-95     ,NO ,    -5.423E+00,    5.646E+00,    8.767E+00,,   -0.619
C,MO-99     ,NO ,    -1.903E+02,    5.301E+02,    8.580E+02,,   -0.222
C,RU-103    ,NO ,    2.147E+00,    3.418E+00,    5.862E+00,,    0.366
C,RU-106    ,NO ,    -8.968E+00,    2.721E+01,    4.367E+01,,   -0.205
C,AG-110m   ,NO ,    1.459E-01,    2.808E+00,    4.591E+00,,    0.032
C,SN-113    ,NO ,    -2.430E+00,    3.739E+00,    5.952E+00,,   -0.408
C,SB-124    ,NO ,    -2.300E+00,    7.545E+00,    5.164E+00,,   -0.445
C,SB-125    ,NO ,    3.036E+00,    7.922E+00,    1.318E+01,,    0.230
C,TE-129M   ,NO ,    8.661E+00,    4.068E+01,    6.682E+01,,    0.130
C,I-131     ,NO ,    -7.996E+00,    8.263E+00,    1.303E+01,,   -0.614
C,BA-133    ,NO ,    3.422E-01,    3.859E+00,    6.406E+00,,    0.053
C,CS-134    ,NO ,    2.045E+00,    6.703E+00,    5.207E+00,,    0.393
C,CS-136    ,NO ,    -5.413E-01,    5.328E+00,    8.704E+00,,   -0.062
C,CS-137    ,NO ,    3.677E-01,    3.297E+00,    5.268E+00,,    0.070
C,CE-139    ,NO ,    1.251E+00,    2.876E+00,    4.702E+00,,    0.266
C,BA-140    ,NO ,    -2.318E+00,    1.947E+01,    3.201E+01,,   -0.072
C,LA-140    ,NO ,    8.192E+00,    7.018E+00,    1.264E+01,,    0.648
C,CE-141    ,NO ,    4.531E+00,    6.833E+00,    9.783E+00,,    0.463
C,CE-144    ,NO ,    -1.475E+01,    2.345E+01,    3.326E+01,,   -0.444
C,EU-152    ,NO ,    -1.401E+01,    9.006E+00,    1.398E+01,,   -1.002
C,EU-154    ,NO ,    3.040E+00,    5.502E+00,    9.164E+00,,    0.332
C,RA-226    ,NO ,    3.293E+01,    8.789E+01,    1.238E+02,,    0.266
C,AC-228    ,NO ,    -7.090E+00,    1.229E+01,    1.890E+01,,   -0.375
C,TH-232    ,NO ,    -7.060E+00,    1.224E+01,    1.882E+01,,   -0.375
C,AM-241    ,NO ,    -3.275E+01,    2.429E+01,    3.752E+01,,   -0.873

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Sec. Review: Analyst: LIMS: 

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VAX/VMS Teledyne Brown Eng. Laboratory Gamma Report: 13-JUN-2006 05:24:55.47

TBE04 P-40312B HpGe ***** Aquisition Date/Time: 12-JUN-2006 23:24:47.95

LIMS No., Customer Name, Client ID: WG L28851-1 EX DRES

| | | | |
|---------------|-----------------|---------------|-----------------------|
| Sample ID | : 04L28851-1 | Smple Date: | 31-MAY-2006 10:00:00. |
| Sample Type | : WG | Geometry | : 043L082004 |
| Quantity | : 3.09670E+00 L | BKGFILE | : 04BG060306MT |
| Start Channel | : 90 | Energy Tol | : 1.00000 |
| End Channel | : 4090 | Real Time | : 0 06:00:03.61 |
| MDA Constant | : 0.00 | Live time | : 0 06:00:00.00 |
| | | Pk Srch Sens: | 5.00000 |
| | | Library Used: | LIBD |

| Pk | It | Energy | Area | Bkgnd | FWHM | Channel | %Eff | Cts/Sec | %Err | Fit |
|----|----|----------|------|-------|------|---------|----------|---------------|-------|----------|
| 1 | 1 | 66.52* | 219 | 601 | 1.22 | 133.61 | 6.71E-01 | 1.01E-02 | 21.4 | 3.47E+00 |
| 2 | 1 | 93.21* | 68 | 474 | 1.92 | 187.04 | 1.55E+00 | 3.16E-03 | 67.2 | 3.87E+00 |
| 3 | 1 | 139.76 | 149 | 484 | 1.17 | 280.19 | 2.04E+00 | 6.90E-03 | 26.9 | 2.66E+00 |
| 4 | 1 | 185.76* | 62 | 426 | 1.62 | 372.25 | 1.92E+00 | 2.87E-03 | 69.5 | 9.31E-01 |
| 5 | 1 | 198.55* | 88 | 377 | 1.76 | 397.86 | 1.86E+00 | 4.07E-03 | 48.2 | 2.49E+00 |
| 6 | 1 | 351.41* | 3 | 261 | 1.77 | 703.78 | 1.28E+00 | 1.25E-04***** | | 2.12E+00 |
| 7 | 1 | 582.80* | 1 | 113 | 2.09 | 1166.81 | 8.78E-01 | 3.04E-05***** | | 5.71E-01 |
| 8 | 1 | 595.54 | 83 | 118 | 1.54 | 1192.29 | 8.63E-01 | 3.85E-03 | 25.4 | 3.51E+00 |
| 9 | 1 | 609.21* | 2 | 176 | 1.42 | 1219.64 | 8.49E-01 | 7.35E-05***** | | 2.59E+00 |
| 10 | 1 | 910.95* | 10 | 75 | 1.31 | 1823.37 | 6.21E-01 | 4.59E-04 | 209.4 | 1.86E+00 |
| 11 | 1 | 1459.94* | 23 | 27 | 3.46 | 2921.56 | 4.30E-01 | 1.08E-03 | 87.9 | 1.10E+00 |
| 12 | 1 | 1984.38 | 27 | 0 | 2.46 | 3970.36 | 3.52E-01 | 1.25E-03 | 18.5 | 2.32E-01 |
| 13 | 1 | 1990.64 | 65 | 12 | 5.95 | 3982.87 | 3.52E-01 | 3.03E-03 | 14.8 | 4.94E+00 |

Flag: "*" = Peak area was modified by background subtraction

Nuclide Line Activity Report

Nuclide Type: natural

| Nuclide | Energy | Area | %Abn | %Eff | Uncorrected pCi/L | Decay Corr pCi/L | 2-Sigma %Error |
|---------|---------|-------|--------|-----------|----------------------|---------------------|-------------------|
| K-40 | 1460.81 | 23 | 10.67* | 4.298E-01 | 2.057E+01 | 2.057E+01 | 175.76 |
| RA-226 | 186.21 | 62 | 3.28* | 1.922E+00 | 3.975E+01 | 3.975E+01 | 139.05 |
| AC-228 | 835.50 | ----- | 1.75 | 6.649E-01 | ----- | Line Not Found | ----- |
| | 911.07 | 10 | 27.70* | 6.212E-01 | 2.328E+00 | 2.338E+00 | 418.78 |
| TH-232 | 583.14 | 1 | 30.25 | 8.776E-01 | 1.000E-01 | 1.000E-01 | 7251.24 |
| | 911.07 | 10 | 27.70* | 6.212E-01 | 2.328E+00 | 2.328E+00 | 418.78 |
| | 969.11 | ----- | 16.60 | 5.916E-01 | ----- | Line Not Found | ----- |
| U-235 | 143.76 | ----- | 10.50* | 2.041E+00 | ----- | Line Not Found | ----- |
| | 163.35 | ----- | 4.70 | 2.007E+00 | ----- | Line Not Found | ----- |
| | 185.71 | 62 | 54.00 | 1.922E+00 | 2.414E+00 | 2.414E+00 | 139.05 |
| | 205.31 | ----- | 4.70 | 1.833E+00 | ----- | Line Not Found | ----- |

Flag: "*" = Keyline

Summary of Nuclide Activity

Page : 2

Sample ID : 04L28851-1

Acquisition date : 12-JUN-2006 23:24:47

| | | |
|---|----|--------|
| Total number of lines in spectrum | 13 | |
| Number of unidentified lines | 9 | |
| Number of lines tentatively identified by NID | 4 | 30.77% |

Nuclide Type : natural

| Nuclide | Hlife | Decay | Uncorrected pCi/L | Decay Corr pCi/L | Decay Corr 2-Sigma Error | 2-Sigma %Error | Flags |
|------------------|-----------|-------|----------------------|---------------------|-----------------------------|-------------------|-------|
| K-40 | 1.28E+09Y | 1.00 | 2.057E+01 | 2.057E+01 | 3.615E+01 | 175.76 | |
| RA-226 | 1600.00Y | 1.00 | 3.975E+01 | 3.975E+01 | 5.527E+01 | 139.05 | |
| AC-228 | 5.75Y | 1.00 | 2.328E+00 | 2.338E+00 | 9.791E+00 | 418.78 | |
| TH-232 | 1.41E+10Y | 1.00 | 2.328E+00 | 2.328E+00 | 9.750E+00 | 418.78 | |
| U-235 | 7.04E+08Y | 1.00 | 2.414E+00 | 2.414E+00 | 3.357E+00 | 139.05 | K |
| Total Activity : | | | 6.738E+01 | 6.740E+01 | | | |

| | | |
|------------------------|-----------|-----------|
| Grand Total Activity : | 6.738E+01 | 6.740E+01 |
|------------------------|-----------|-----------|

Flags: "K" = Keyline not found
 "E" = Manually edited

"M" = Manually accepted
 "A" = Nuclide specific abn. limit

Unidentified Energy Lines

Page : 3

Sample ID : 04L28851-1

Acquisition date : 12-JUN-2006 23:24:47

| It | Energy | Area | Bkgnd | FWHM | Channel | Left | Pw | Cts/Sec | %Err | %Eff | Flags |
|----|---------|------|-------|------|---------|------|----|----------|------|----------|-------|
| 1 | 66.52 | 219 | 601 | 1.22 | 133.61 | 130 | 8 | 1.01E-02 | 42.8 | 6.71E-01 | |
| 1 | 93.21 | 68 | 474 | 1.92 | 187.04 | 183 | 9 | 3.16E-03 | **** | 1.55E+00 | |
| 1 | 139.76 | 149 | 484 | 1.17 | 280.19 | 277 | 8 | 6.90E-03 | 53.7 | 2.04E+00 | |
| 1 | 198.55 | 88 | 377 | 1.76 | 397.86 | 394 | 9 | 4.07E-03 | 96.3 | 1.86E+00 | |
| 1 | 351.41 | 3 | 261 | 1.77 | 703.78 | 700 | 12 | 1.25E-04 | **** | 1.28E+00 | |
| 1 | 595.54 | 83 | 118 | 1.54 | 1192.29 | 1189 | 9 | 3.85E-03 | 50.8 | 8.63E-01 | |
| 1 | 609.21 | 2 | 176 | 1.42 | 1219.64 | 1212 | 12 | 7.35E-05 | **** | 8.49E-01 | |
| 1 | 1984.38 | 27 | 0 | 2.46 | 3970.36 | 3966 | 10 | 1.25E-03 | 37.0 | 3.52E-01 | |
| 1 | 1990.64 | 65 | 12 | 5.95 | 3982.87 | 3975 | 16 | 3.03E-03 | 29.5 | 3.52E-01 | |

Flags: "T" = Tentatively associated

Summary of Nuclide Activity

Total number of lines in spectrum 13
 Number of unidentified lines 9
 Number of lines tentatively identified by NID 4 30.77%

Nuclide Type : natural

| Nuclide | Hlife | Decay | Wtd Mean | Wtd Mean | Decay Corr | 2-Sigma | 2-Sigma | Error | %Error | Flags |
|------------------|-----------|-------|-------------|------------|------------|-----------|---------|-------|--------|-------|
| | | | Uncorrected | Decay Corr | | | | | | |
| | | | pCi/L | pCi/L | | | | | | |
| K-40 | 1.28E+09Y | 1.00 | 2.057E+01 | 2.057E+01 | | 3.615E+01 | 175.76 | | | |
| RA-226 | 1600.00Y | 1.00 | 3.975E+01 | 3.975E+01 | | 5.527E+01 | 139.05 | | | |
| AC-228 | 5.75Y | 1.00 | 2.228E+00 | 2.238E+00 | | 12.20E+00 | 545.38 | | | |
| TH-232 | 1.41E+10Y | 1.00 | 1.000E-01 | 1.000E-01 | | 72.53E-01 | 7251.24 | | | |
| Total Activity : | | | 6.264E+01 | 6.265E+01 | | | | | | |

Grand Total Activity : 6.264E+01 6.265E+01

Flags: "K" = Keyline not found "M" = Manually accepted
 "E" = Manually edited "A" = Nuclide specific abn. limit

Interference Report

| Interfering | | Interfered | |
|-------------|--------|------------|--------|
| Nuclide | Line | Nuclide | Line |
| TH-232 | 911.07 | AC-228 | 911.07 |

Combined Activity-MDA Report

---- Identified Nuclides ----


| Nuclide | Activity (pCi/L) | Act error | MDA (pCi/L) | MDA error | Act/MDA |
|---------|---------------------|-----------|----------------|-----------|---------|
| K-40 | 2.057E+01 | 3.615E+01 | 3.617E+01 | 0.000E+00 | 0.569 |
| RA-226 | 3.975E+01 | 5.527E+01 | 7.773E+01 | 0.000E+00 | 0.511 |
| AC-228 | 2.238E+00 | 1.220E+01 | 1.332E+01 | 0.000E+00 | 0.168 |
| TH-232 | 1.000E-01 | 7.253E+00 | 1.476E+01 | 0.000E+00 | 0.007 |

---- Non-Identified Nuclides ----

| Nuclide | Key-Line Activity (pCi/L) | K.L. Ided | Act error | MDA (pCi/L) | MDA error | Act/MDA |
|---------|---------------------------------|--------------|-----------|---------------------|-----------|---------|
| BE-7 | 1.209E+01 | | 2.025E+01 | 3.453E+01 | 0.000E+00 | 0.350 |
| NA-24 | -1.914E+00 | | 1.462E+00 | Half-Life too short | | |
| CR-51 | -3.453E+00 | | 2.442E+01 | 4.032E+01 | 0.000E+00 | -0.086 |
| MN-54 | 6.310E-01 | | 2.181E+00 | 3.635E+00 | 0.000E+00 | 0.174 |
| CO-57 | -1.041E+00 | | 1.977E+00 | 3.176E+00 | 0.000E+00 | -0.328 |
| CO-58 | -2.544E+00 | | 2.490E+00 | 3.858E+00 | 0.000E+00 | -0.660 |
| FE-59 | 4.804E+00 | | 5.086E+00 | 8.848E+00 | 0.000E+00 | 0.543 |
| CO-60 | 6.034E-01 | | 2.745E+00 | 4.312E+00 | 0.000E+00 | 0.140 |
| ZN-65 | 2.227E+00 | | 4.780E+00 | 8.080E+00 | 0.000E+00 | 0.276 |
| SE-75 | -2.050E+00 | | 3.041E+00 | 4.828E+00 | 0.000E+00 | -0.425 |
| SR-85 | 1.808E+01 | | 2.952E+00 | 5.762E+00 | 0.000E+00 | 3.138 |
| Y-88 | -6.529E-01 | | 2.701E+00 | 4.332E+00 | 0.000E+00 | -0.151 |
| NB-94 | 8.291E-01 | | 2.080E+00 | 3.523E+00 | 0.000E+00 | 0.235 |
| NB-95 | 3.017E-01 | | 2.280E+00 | 3.791E+00 | 0.000E+00 | 0.080 |
| ZR-95 | 6.969E-01 | | 4.177E+00 | 6.965E+00 | 0.000E+00 | 0.100 |
| MO-99 | -3.021E+02 | | 3.768E+02 | 5.957E+02 | 0.000E+00 | -0.507 |
| RU-103 | 1.776E+00 | | 2.622E+00 | 4.473E+00 | 0.000E+00 | 0.397 |
| RU-106 | -2.104E+01 | | 2.088E+01 | 3.235E+01 | 0.000E+00 | -0.650 |
| AG-110m | 1.192E+00 | | 2.162E+00 | 3.617E+00 | 0.000E+00 | 0.329 |
| SN-113 | -4.186E-01 | | 2.927E+00 | 4.766E+00 | 0.000E+00 | -0.088 |
| SB-124 | -7.331E+00 | | 6.863E+00 | 4.133E+00 | 0.000E+00 | -1.774 |
| SB-125 | -3.768E+00 | | 6.327E+00 | 1.004E+01 | 0.000E+00 | -0.375 |
| TE-129M | 3.209E+01 | | 3.014E+01 | 5.114E+01 | 0.000E+00 | 0.628 |
| I-131 | -2.707E+00 | | 6.093E+00 | 9.852E+00 | 0.000E+00 | -0.275 |
| BA-133 | 3.011E+00 | | 3.269E+00 | 4.810E+00 | 0.000E+00 | 0.626 |
| CS-134 | -1.128E+00 | | 4.098E+00 | 3.909E+00 | 0.000E+00 | -0.289 |
| CS-136 | 1.400E+00 | | 4.010E+00 | 6.718E+00 | 0.000E+00 | 0.208 |
| CS-137 | 9.091E-01 | | 2.354E+00 | 3.904E+00 | 0.000E+00 | 0.233 |
| CE-139 | -3.787E-01 | | 2.021E+00 | 3.353E+00 | 0.000E+00 | -0.113 |
| BA-140 | 7.754E+00 | | 1.403E+01 | 2.377E+01 | 0.000E+00 | 0.326 |
| LA-140 | -7.562E-01 | | 4.735E+00 | 7.751E+00 | 0.000E+00 | -0.098 |
| CE-141 | 2.456E+00 | | 4.977E+00 | 6.998E+00 | 0.000E+00 | 0.351 |
| CE-144 | -7.593E+00 | | 1.740E+01 | 2.478E+01 | 0.000E+00 | -0.306 |
| EU-152 | -7.108E+00 | | 7.590E+00 | 1.049E+01 | 0.000E+00 | -0.677 |
| EU-154 | -1.729E+00 | | 4.055E+00 | 6.530E+00 | 0.000E+00 | -0.265 |
| TH-228 | 2.055E+00 | | 4.226E+00 | 6.798E+00 | 0.000E+00 | 0.302 |
| U-235 | 7.242E+00 | | 1.746E+01 | 2.449E+01 | 0.000E+00 | 0.296 |
| U-238 | 6.968E+01 | | 2.404E+02 | 4.050E+02 | 0.000E+00 | 0.172 |
| AM-241 | -7.655E+00 | | 2.163E+01 | 3.337E+01 | 0.000E+00 | -0.229 |

A,04L28851-1 ,06/13/2006 05:24,05/31/2006 10:00, 3.097E+00,WG L28851-1 EX
 B,04L28851-1 ,LIBD ,06/12/2006 10:58,043L082004

| | | | | | |
|-----------|-------|-------------|------------|-------------|--------|
| C,K-40 | ,YES, | 2.057E+01, | 3.615E+01, | 3.617E+01,, | 0.569 |
| C,RA-226 | ,YES, | 3.975E+01, | 5.527E+01, | 7.773E+01,, | 0.511 |
| C,AC-228 | ,YES, | 2.238E+00, | 1.220E+01, | 1.332E+01,, | 0.168 |
| C,TH-232 | ,YES, | 1.000E-01, | 7.253E+00, | 1.476E+01,, | 0.007 |
| C,BE-7 | ,NO , | 1.209E+01, | 2.025E+01, | 3.453E+01,, | 0.350 |
| C,CR-51 | ,NO , | -3.453E+00, | 2.442E+01, | 4.032E+01,, | -0.086 |
| C,MN-54 | ,NO , | 6.310E-01, | 2.181E+00, | 3.635E+00,, | 0.174 |
| C,CO-57 | ,NO , | -1.041E+00, | 1.977E+00, | 3.176E+00,, | -0.328 |
| C,CO-58 | ,NO , | -2.544E+00, | 2.490E+00, | 3.858E+00,, | -0.660 |
| C,FE-59 | ,NO , | 4.804E+00, | 5.086E+00, | 8.848E+00,, | 0.543 |
| C,CO-60 | ,NO , | 6.034E-01, | 2.745E+00, | 4.312E+00,, | 0.140 |
| C,ZN-65 | ,NO , | 2.227E+00, | 4.780E+00, | 8.080E+00,, | 0.276 |
| C,SE-75 | ,NO , | -2.050E+00, | 3.041E+00, | 4.828E+00,, | -0.425 |
| C,SR-85 | ,NO , | 1.808E+01, | 2.952E+00, | 5.762E+00,, | 3.138 |
| C,Y-88 | ,NO , | -6.529E-01, | 2.701E+00, | 4.332E+00,, | -0.151 |
| C,NB-94 | ,NO , | 8.291E-01, | 2.080E+00, | 3.523E+00,, | 0.235 |
| C,NB-95 | ,NO , | 3.017E-01, | 2.280E+00, | 3.791E+00,, | 0.080 |
| C,ZR-95 | ,NO , | 6.969E-01, | 4.177E+00, | 6.965E+00,, | 0.100 |
| C,MO-99 | ,NO , | -3.021E+02, | 3.768E+02, | 5.957E+02,, | -0.507 |
| C,RU-103 | ,NO , | 1.776E+00, | 2.622E+00, | 4.473E+00,, | 0.397 |
| C,RU-106 | ,NO , | -2.104E+01, | 2.088E+01, | 3.235E+01,, | -0.650 |
| C,AG-110m | ,NO , | 1.192E+00, | 2.162E+00, | 3.617E+00,, | 0.329 |
| C,SN-113 | ,NO , | -4.186E-01, | 2.927E+00, | 4.766E+00,, | -0.088 |
| C,SB-124 | ,NO , | -7.331E+00, | 6.863E+00, | 4.133E+00,, | -1.774 |
| C,SB-125 | ,NO , | -3.768E+00, | 6.327E+00, | 1.004E+01,, | -0.375 |
| C,TE-129M | ,NO , | 3.209E+01, | 3.014E+01, | 5.114E+01,, | 0.628 |
| C,I-131 | ,NO , | -2.707E+00, | 6.093E+00, | 9.852E+00,, | -0.275 |
| C,BA-133 | ,NO , | 3.011E+00, | 3.269E+00, | 4.810E+00,, | 0.626 |
| C,CS-134 | ,NO , | -1.128E+00, | 4.098E+00, | 3.909E+00,, | -0.289 |
| C,CS-136 | ,NO , | 1.400E+00, | 4.010E+00, | 6.718E+00,, | 0.208 |
| C,CS-137 | ,NO , | 9.091E-01, | 2.354E+00, | 3.904E+00,, | 0.233 |
| C,CE-139 | ,NO , | -3.787E-01, | 2.021E+00, | 3.353E+00,, | -0.113 |
| C,BA-140 | ,NO , | 7.754E+00, | 1.403E+01, | 2.377E+01,, | 0.326 |
| C,LA-140 | ,NO , | -7.562E-01, | 4.735E+00, | 7.751E+00,, | -0.098 |
| C,CE-141 | ,NO , | 2.456E+00, | 4.977E+00, | 6.998E+00,, | 0.351 |
| C,CE-144 | ,NO , | -7.593E+00, | 1.740E+01, | 2.478E+01,, | -0.306 |
| C,EU-152 | ,NO , | -7.108E+00, | 7.590E+00, | 1.049E+01,, | -0.677 |
| C,EU-154 | ,NO , | -1.729E+00, | 4.055E+00, | 6.530E+00,, | -0.265 |
| C,TH-228 | ,NO , | 2.055E+00, | 4.226E+00, | 6.798E+00,, | 0.302 |
| C,U-235 | ,NO , | 7.242E+00, | 1.746E+01, | 2.449E+01,, | 0.296 |
| C,U-238 | ,NO , | 6.968E+01, | 2.404E+02, | 4.050E+02,, | 0.172 |
| C,AM-241 | ,NO , | -7.655E+00, | 2.163E+01, | 3.337E+01,, | -0.229 |

Sec. Review: Analyst: LIMS: 

=====

VAX/VMS Teledyne Brown Eng. Laboratory Gamma Report: 13-JUN-2006 05:25:02.23

TBE07 P-10768B HpGe ***** Aquisition Date/Time: 12-JUN-2006 23:24:51.25

LIMS No., Customer Name, Client ID: WG L28851-2 EX DRES

| | | | |
|---------------|-----------------|---------------|-----------------------|
| Sample ID | : 07L28851-2 | Smple Date: | 31-MAY-2006 10:40:00. |
| Sample Type | : WG | Geometry | : 073L082504 |
| Quantity | : 3.13180E+00 L | BKGFILE | : 07BG060306MT |
| Start Channel | : 40 | Energy Tol | : 1.00000 |
| End Channel | : 4090 | Pk Srch Sens: | 5.00000 |
| MDA Constant | : 0.00 | Library Used: | LIBD |
| | | Real Time | : 0 06:00:04.13 |
| | | Live time | : 0 06:00:00.00 |

| Pk | It | Energy | Area | Bkgnd | FWHM | Channel | %Eff | Cts/Sec | %Err | Fit |
|----|----|---------|------|-------|------|---------|----------|----------|------|----------|
| 1 | 1 | 66.32* | 215 | 500 | 1.18 | 133.20 | 8.05E-01 | 9.97E-03 | 20.0 | 2.07E+00 |
| 2 | 1 | 175.25 | 100 | 354 | 1.33 | 351.25 | 2.33E+00 | 4.62E-03 | 32.8 | 1.04E+00 |
| 3 | 1 | 198.38* | 176 | 474 | 0.95 | 397.53 | 2.25E+00 | 8.15E-03 | 26.3 | 7.53E-01 |
| 4 | 1 | 596.31 | 82 | 194 | 1.74 | 1193.80 | 1.10E+00 | 3.78E-03 | 36.1 | 8.93E-01 |

Flag: "*" = Peak area was modified by background subtraction

Nuclide Line Activity Report

Flag: "*" = Keyline

Summary of Nuclide Activity
Sample ID : 07L28851-2

Page : 2
Acquisition date : 12-JUN-2006 23:24:51

| | | |
|---|---|-------|
| Total number of lines in spectrum | 4 | |
| Number of unidentified lines | 4 | |
| Number of lines tentatively identified by NID | 0 | 0.00% |

**** There are no nuclides meeting summary criteria ****

Flags: "K" = Keyline not found
 "E" = Manually edited

"M" = Manually accepted
"A" = Nuclide specific abn. limit

Unidentified Energy Lines
Sample ID : 07L28851-2

Page : 3
Acquisition date : 12-JUN-2006 23:24:51

| It | Energy | Area | Bkgnd | FWHM | Channel | Left | Pw | Cts/Sec | %Err | %Eff | Flags |
|----|--------|------|-------|------|---------|------|----|----------|------|----------|-------|
| 1 | 66.32 | 215 | 500 | 1.18 | 133.20 | 130 | 7 | 9.97E-03 | 40.0 | 8.05E-01 | |
| 1 | 175.25 | 100 | 354 | 1.33 | 351.25 | 348 | 7 | 4.62E-03 | 65.7 | 2.33E+00 | |
| 1 | 198.38 | 176 | 474 | 0.95 | 397.53 | 394 | 9 | 8.15E-03 | 52.6 | 2.25E+00 | |
| 1 | 596.31 | 82 | 194 | 1.74 | 1193.80 | 1189 | 12 | 3.78E-03 | 72.2 | 1.10E+00 | |

Flags: "T" = Tentatively associated

Summary of Nuclide Activity

Total number of lines in spectrum 4
 Number of unidentified lines 4
 Number of lines tentatively identified by NID 0 0.00%
 **** There are no nuclides meeting summary criteria ****

Flags: "K" = Keyline not found "M" = Manually accepted
 "E" = Manually edited "A" = Nuclide specific abn. limit

Interference Report

No interference correction performed

Combined Activity-MDA Report

---- Non-Identified Nuclides ----

| Nuclide | Key-Line Activity (pCi/L) | K.L. Ided | Act error | MDA (pCi/L) | MDA error | Act/MDA |
|---------|---------------------------------|--------------|-----------|---------------------|-----------|---------|
| BE-7 | 1.119E+01 | | 1.859E+01 | 3.097E+01 | 0.000E+00 | 0.361 |
| NA-24 | -2.209E+00 | | 1.188E+00 | Half-Life too short | | |
| K-40 | 8.035E+00 | | 2.896E+01 | 4.905E+01 | 0.000E+00 | 0.164 |
| CR-51 | -3.653E+01 | | 2.152E+01 | 3.403E+01 | 0.000E+00 | -1.074 |
| MN-54 | 1.328E+00 | | 1.961E+00 | 3.343E+00 | 0.000E+00 | 0.397 |
| CO-57 | -6.868E-01 | | 1.843E+00 | 2.986E+00 | 0.000E+00 | -0.230 |
| CO-58 | -9.974E-01 | | 2.087E+00 | 3.375E+00 | 0.000E+00 | -0.296 |
| FE-59 | 5.916E-01 | | 4.220E+00 | 7.044E+00 | 0.000E+00 | 0.084 |
| CO-60 | -4.378E-02 | | 1.951E+00 | 3.181E+00 | 0.000E+00 | -0.014 |
| ZN-65 | 3.283E+00 | | 3.942E+00 | 6.826E+00 | 0.000E+00 | 0.481 |
| SE-75 | -1.044E+00 | | 2.764E+00 | 4.466E+00 | 0.000E+00 | -0.234 |
| SR-85 | 2.076E+01 | | 2.671E+00 | 5.289E+00 | 0.000E+00 | 3.924 |
| Y-88 | -1.413E+00 | | 2.332E+00 | 3.686E+00 | 0.000E+00 | -0.383 |
| NB-94 | -1.255E-01 | | 1.970E+00 | 3.206E+00 | 0.000E+00 | -0.039 |
| NB-95 | -5.844E-01 | | 2.031E+00 | 3.328E+00 | 0.000E+00 | -0.176 |
| ZR-95 | -1.174E-01 | | 3.627E+00 | 5.880E+00 | 0.000E+00 | -0.020 |
| MO-99 | -2.787E+01 | | 3.435E+02 | 5.564E+02 | 0.000E+00 | -0.050 |
| RU-103 | 2.558E+00 | | 2.399E+00 | 4.055E+00 | 0.000E+00 | 0.631 |
| RU-106 | -1.337E+00 | | 1.805E+01 | 2.959E+01 | 0.000E+00 | -0.045 |
| AG-110m | -3.266E-02 | | 1.865E+00 | 3.054E+00 | 0.000E+00 | -0.011 |
| SN-113 | -8.878E-01 | | 2.570E+00 | 4.181E+00 | 0.000E+00 | -0.212 |
| SB-124 | -4.221E+00 | | 2.917E+00 | 3.728E+00 | 0.000E+00 | -1.132 |
| SB-125 | 6.717E-01 | | 5.652E+00 | 9.301E+00 | 0.000E+00 | 0.072 |
| TE-129M | 1.404E+01 | | 2.808E+01 | 4.667E+01 | 0.000E+00 | 0.301 |

| | | | | | |
|--------|------------|-----------|-----------|-----------|--------|
| I-131 | 3.688E+00 | 5.627E+00 | 9.500E+00 | 0.000E+00 | 0.388 |
| BA-133 | 2.110E+00 | 2.657E+00 | 4.505E+00 | 0.000E+00 | 0.468 |
| CS-134 | -1.640E+00 | 2.158E+00 | 3.461E+00 | 0.000E+00 | -0.474 |
| CS-136 | -1.031E+00 | 3.440E+00 | 5.605E+00 | 0.000E+00 | -0.184 |
| CS-137 | 8.700E-01 | 2.021E+00 | 3.376E+00 | 0.000E+00 | 0.258 |
| CE-139 | 1.272E-01 | 1.928E+00 | 3.171E+00 | 0.000E+00 | 0.040 |
| BA-140 | 6.818E+00 | 1.308E+01 | 2.215E+01 | 0.000E+00 | 0.308 |
| LA-140 | -1.327E+00 | 4.264E+00 | 6.850E+00 | 0.000E+00 | -0.194 |
| CE-141 | -6.823E+00 | 4.211E+00 | 6.576E+00 | 0.000E+00 | -1.038 |
| CE-144 | -1.330E+01 | 1.521E+01 | 2.428E+01 | 0.000E+00 | -0.548 |
| EU-152 | -1.667E+01 | 6.086E+00 | 9.247E+00 | 0.000E+00 | -1.803 |
| EU-154 | -1.419E+00 | 3.769E+00 | 6.103E+00 | 0.000E+00 | -0.233 |
| RA-226 | 5.691E-01 | 4.908E+01 | 7.915E+01 | 0.000E+00 | 0.007 |
| AC-228 | -5.452E+00 | 8.368E+00 | 1.257E+01 | 0.000E+00 | -0.434 |
| TH-228 | 5.233E+00 | 3.885E+00 | 6.386E+00 | 0.000E+00 | 0.819 |
| TH-232 | -5.429E+00 | 8.333E+00 | 1.252E+01 | 0.000E+00 | -0.434 |
| U-235 | -9.411E+00 | 1.483E+01 | 2.372E+01 | 0.000E+00 | -0.397 |
| U-238 | 4.282E+01 | 2.025E+02 | 3.344E+02 | 0.000E+00 | 0.128 |
| AM-241 | -3.597E+01 | 1.963E+01 | 2.755E+01 | 0.000E+00 | -1.305 |

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A,07L28851-2      ,06/13/2006 05:25,05/31/2006 10:40,    3.132E+00,WG L28851-2 EX
B,07L28851-2      ,LIBD      ,06/07/2006 09:32,073L082504
C,BE-7      ,NO ,    1.119E+01,    1.859E+01,    3.097E+01,,    0.361
C,K-40      ,NO ,    8.035E+00,    2.896E+01,    4.905E+01,,    0.164
C,CR-51     ,NO ,   -3.653E+01,    2.152E+01,    3.403E+01,,   -1.074
C,MN-54     ,NO ,    1.328E+00,    1.961E+00,    3.343E+00,,    0.397
C,CO-57     ,NO ,   -6.868E-01,    1.843E+00,    2.986E+00,,   -0.230
C,CO-58     ,NO ,   -9.974E-01,    2.087E+00,    3.375E+00,,   -0.296
C,FE-59     ,NO ,    5.916E-01,    4.220E+00,    7.044E+00,,    0.084
C,CO-60     ,NO ,   -4.378E-02,    1.951E+00,    3.181E+00,,   -0.014
C,ZN-65     ,NO ,    3.283E+00,    3.942E+00,    6.826E+00,,    0.481
C,SE-75     ,NO ,   -1.044E+00,    2.764E+00,    4.466E+00,,   -0.234
C,SR-85     ,NO ,    2.076E+01,    2.671E+00,    5.289E+00,,    3.924
C,Y-88      ,NO ,   -1.413E+00,    2.332E+00,    3.686E+00,,   -0.383
C,NB-94     ,NO ,   -1.255E-01,    1.970E+00,    3.206E+00,,   -0.039
C,NB-95     ,NO ,   -5.844E-01,    2.031E+00,    3.328E+00,,   -0.176
C,ZR-95     ,NO ,   -1.174E-01,    3.627E+00,    5.880E+00,,   -0.020
C,MO-99     ,NO ,   -2.787E+01,    3.435E+02,    5.564E+02,,   -0.050
C,RU-103    ,NO ,    2.558E+00,    2.399E+00,    4.055E+00,,    0.631
C,RU-106    ,NO ,   -1.337E+00,    1.805E+01,    2.959E+01,,   -0.045
C,AG-110m   ,NO ,   -3.266E-02,    1.865E+00,    3.054E+00,,   -0.011
C,SN-113    ,NO ,   -8.878E-01,    2.570E+00,    4.181E+00,,   -0.212
C,SB-124    ,NO ,   -4.221E+00,    2.917E+00,    3.728E+00,,   -1.132
C,SB-125    ,NO ,    6.717E-01,    5.652E+00,    9.301E+00,,    0.072
C,TE-129M   ,NO ,    1.404E+01,    2.808E+01,    4.667E+01,,    0.301
C,I-131     ,NO ,    3.688E+00,    5.627E+00,    9.500E+00,,    0.388
C,BA-133    ,NO ,    2.110E+00,    2.657E+00,    4.505E+00,,    0.468
C,CS-134    ,NO ,   -1.640E+00,    2.158E+00,    3.461E+00,,   -0.474
C,CS-136    ,NO ,   -1.031E+00,    3.440E+00,    5.605E+00,,   -0.184
C,CS-137    ,NO ,    8.700E-01,    2.021E+00,    3.376E+00,,    0.258
C,CE-139    ,NO ,    1.272E-01,    1.928E+00,    3.171E+00,,    0.040
C,BA-140    ,NO ,    6.818E+00,    1.308E+01,    2.215E+01,,    0.308
C,LA-140    ,NO ,   -1.327E+00,    4.264E+00,    6.850E+00,,   -0.194
C,CE-141    ,NO ,   -6.823E+00,    4.211E+00,    6.576E+00,,   -1.038
C,CE-144    ,NO ,   -1.330E+01,    1.521E+01,    2.428E+01,,   -0.548
C,EU-152    ,NO ,   -1.667E+01,    6.086E+00,    9.247E+00,,   -1.803
C,EU-154    ,NO ,   -1.419E+00,    3.769E+00,    6.103E+00,,   -0.233
C,RA-226    ,NO ,    5.691E-01,    4.908E+01,    7.915E+01,,    0.007
C,AC-228    ,NO ,   -5.452E+00,    8.368E+00,    1.257E+01,,   -0.434
C,TH-228    ,NO ,    5.233E+00,    3.885E+00,    6.386E+00,,    0.819
C,TH-232    ,NO ,   -5.429E+00,    8.333E+00,    1.252E+01,,   -0.434
C,U-235     ,NO ,   -9.411E+00,    1.483E+01,    2.372E+01,,   -0.397
C,U-238     ,NO ,    4.282E+01,    2.025E+02,    3.344E+02,,    0.128
C,AM-241    ,NO ,   -3.597E+01,    1.963E+01,    2.755E+01,,   -1.305

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Sec. Review: Analyst: *AM* LIMS: ✓

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VAX/VMS Teledyne Brown Eng. Laboratory Gamma Report: 13-JUN-2006 07:25:06.52

TBE10 12892256 HpGe ***** Aquisition Date/Time: 12-JUN-2006 23:24:56.75

LIMS No., Customer Name, Client ID: WG L28851-3 EX DRES

| | | | |
|---------------|-----------------|---------------|-----------------------|
| Sample ID | : 10L28851-3 | Smple Date: | 31-MAY-2006 11:40:00. |
| Sample Type | : WG | Geometry | : 103L083004 |
| Quantity | : 3.01390E+00 L | BKGFILE | : 10BG060306MT |
| Start Channel | : 80 | Energy Tol | : 1.00000 |
| End Channel | : 4090 | Real Time | : 0 08:00:04.65 |
| MDA Constant | : 0.00 | Live time | : 0 08:00:00.00 |
| | | Pk Srch Sens: | 5.00000 |
| | | Library Used: | LIBD |

| Pk | It | Energy | Area | Bkgnd | FWHM | Channel | %Eff | Cts/Sec | %Err | Fit |
|----|----|----------|------|-------|------|---------|----------|----------|-------|----------|
| 1 | 1 | 66.29* | 225 | 975 | 1.51 | 131.70 | 7.26E-01 | 7.80E-03 | 27.1 | 3.72E+00 |
| 2 | 1 | 140.05 | 253 | 744 | 1.45 | 279.28 | 1.91E+00 | 8.78E-03 | 19.5 | 1.97E+00 |
| 3 | 1 | 185.89* | 35 | 800 | 1.59 | 370.99 | 1.77E+00 | 1.23E-03 | 174.6 | 1.36E+00 |
| 4 | 1 | 198.60* | 210 | 837 | 1.49 | 396.44 | 1.71E+00 | 7.30E-03 | 31.0 | 1.98E+00 |
| 5 | 1 | 583.02* | 36 | 156 | 2.00 | 1165.71 | 7.99E-01 | 1.25E-03 | 87.4 | 1.35E+00 |
| 6 | 1 | 595.63 | 141 | 172 | 2.24 | 1190.94 | 7.86E-01 | 4.90E-03 | 20.4 | 3.33E+00 |
| 7 | 1 | 609.58* | 36 | 148 | 1.89 | 1218.85 | 7.72E-01 | 1.25E-03 | 81.7 | 1.78E+00 |
| 8 | 1 | 1121.52 | 51 | 122 | 4.96 | 2243.54 | 4.78E-01 | 1.77E-03 | 51.6 | 4.18E+00 |
| 9 | 1 | 1461.35* | 15 | 93 | 1.91 | 2923.85 | 3.88E-01 | 5.19E-04 | 193.3 | 1.89E+00 |

Flag: "*" = Peak area was modified by background subtraction

Nuclide Line Activity Report

Nuclide Type: natural

| Nuclide | Energy | Area | %Abn | %Eff | Uncorrected pCi/L | Decay Corr pCi/L | 2-Sigma %Error |
|---------|---------|-------|--------|-----------|----------------------|---------------------|-------------------|
| K-40 | 1460.81 | 15 | 10.67* | 3.885E-01 | 1.122E+01 | 1.122E+01 | 386.62 |
| RA-226 | 186.21 | 35 | 3.28* | 1.770E+00 | 1.897E+01 | 1.897E+01 | 349.12 |
| U-235 | 143.76 | ----- | 10.50* | 1.905E+00 | ----- | Line Not Found | ----- |
| | 163.35 | ----- | 4.70 | 1.860E+00 | ----- | Line Not Found | ----- |
| | 185.71 | 35 | 54.00 | 1.770E+00 | 1.152E+00 | 1.152E+00 | 349.12 |
| | 205.31 | ----- | 4.70 | 1.684E+00 | ----- | Line Not Found | ----- |

Flag: "*" = Keyline

Summary of Nuclide Activity
 Sample ID : 10L28851-3

Page : 2
 Acquisition date : 12-JUN-2006 23:24:56

Total number of lines in spectrum 9
 Number of unidentified lines 6
 Number of lines tentatively identified by NID 3 33.33%

Nuclide Type : natural

| Nuclide | Hlife | Decay | Uncorrected pCi/L | Decay Corr pCi/L | Decay Corr 2-Sigma Error | 2-Sigma %Error | Flags |
|------------------|-----------|-------|----------------------|---------------------|-----------------------------|-------------------|-------|
| K-40 | 1.28E+09Y | 1.00 | 1.122E+01 | 1.122E+01 | 4.339E+01 | 386.62 | |
| RA-226 | 1600.00Y | 1.00 | 1.897E+01 | 1.897E+01 | 6.623E+01 | 349.12 | |
| U-235 | 7.04E+08Y | 1.00 | 1.152E+00 | 1.152E+00 | 4.023E+00 | 349.12 | K |
| Total Activity : | | | 3.135E+01 | 3.135E+01 | | | |

Grand Total Activity : 3.135E+01 3.135E+01

Flags: "K" = Keyline not found
 "E" = Manually edited

"M" = Manually accepted
 "A" = Nuclide specific abn. limit

Unidentified Energy Lines

Page : 3

Sample ID : 10L28851-3

Acquisition date : 12-JUN-2006 23:24:56

| It | Energy | Area | Bkgnd | FWHM | Channel | Left | Pw | Cts/Sec | %Err | %Eff | Flags |
|----|---------|------|-------|------|---------|------|----|----------|------|----------|-------|
| 1 | 66.29 | 225 | 975 | 1.51 | 131.70 | 128 | 9 | 7.80E-03 | 54.3 | 7.26E-01 | |
| 1 | 140.05 | 253 | 744 | 1.45 | 279.28 | 276 | 8 | 8.78E-03 | 39.1 | 1.91E+00 | |
| 1 | 198.60 | 210 | 837 | 1.49 | 396.44 | 391 | 12 | 7.30E-03 | 62.0 | 1.71E+00 | |
| 1 | 583.02 | 36 | 156 | 2.00 | 1165.71 | 1159 | 13 | 1.25E-03 | **** | 7.99E-01 | T |
| 1 | 595.63 | 141 | 172 | 2.24 | 1190.94 | 1186 | 12 | 4.90E-03 | 40.7 | 7.86E-01 | |
| 1 | 609.58 | 36 | 148 | 1.89 | 1218.85 | 1214 | 10 | 1.25E-03 | **** | 7.72E-01 | |
| 1 | 1121.52 | 51 | 122 | 4.96 | 2243.54 | 2235 | 17 | 1.77E-03 | **** | 4.78E-01 | |

Flags: "T" = Tentatively associated

Summary of Nuclide Activity

| | |
|---|----------|
| Total number of lines in spectrum | 9 |
| Number of unidentified lines | 6 |
| Number of lines tentatively identified by NID | 3 33.33% |

Nuclide Type : natural

| Nuclide | Hlife | Decay | Wtd Mean Uncorrected pCi/L | Wtd Mean Decay Corr pCi/L | Decay Corr 2-Sigma Error | 2-Sigma %Error | Flags |
|------------------|-----------|-------|----------------------------------|---------------------------------|-----------------------------|-------------------|-------|
| K-40 | 1.28E+09Y | 1.00 | 1.122E+01 | 1.122E+01 | 4.339E+01 | 386.62 | |
| RA-226 | 1600.00Y | 1.00 | 1.897E+01 | 1.897E+01 | 6.623E+01 | 349.12 | |
| Total Activity : | | | 3.019E+01 | 3.019E+01 | | | |

Grand Total Activity : 3.019E+01 3.019E+01

| | |
|--------------------------------|-----------------------------------|
| Flags: "K" = Keyline not found | "M" = Manually accepted |
| "E" = Manually edited | "A" = Nuclide specific abn. limit |

Interference Report

No interference correction performed

Combined Activity-MDA Report

---- Identified Nuclides ----

| Nuclide | Activity (pCi/L) | Act error | MDA (pCi/L) | MDA error | Act/MDA |
|---------|---------------------|-----------|----------------|-----------|---------|
| K-40 | 1.122E+01 | 4.339E+01 | 3.587E+01 | 0.000E+00 | 0.313 |
| RA-226 | 1.897E+01 | 6.623E+01 | 8.887E+01 | 0.000E+00 | 0.213 |

---- Non-Identified Nuclides ----


| Nuclide | Key-Line Activity (pCi/L) | K.L. Ided | Act error | MDA (pCi/L) | MDA error | Act/MDA |
|---------|---------------------------------|--------------|-----------|---------------------|-----------|---------|
| BE-7 | 8.698E+00 | | 2.175E+01 | 3.657E+01 | 0.000E+00 | 0.238 |
| NA-24 | -1.137E+00 | | 1.459E+00 | Half-Life too short | | |

| | | | | | |
|---------|------------|-----------|-----------|-----------|--------|
| CR-51 | -2.397E+01 | 2.646E+01 | 4.250E+01 | 0.000E+00 | -0.564 |
| MN-54 | 3.815E-01 | 2.184E+00 | 3.634E+00 | 0.000E+00 | 0.105 |
| CO-57 | -1.060E-01 | 2.274E+00 | 3.759E+00 | 0.000E+00 | -0.028 |
| CO-58 | -5.490E-01 | 2.428E+00 | 3.971E+00 | 0.000E+00 | -0.138 |
| FE-59 | 1.494E+00 | 5.101E+00 | 8.593E+00 | 0.000E+00 | 0.174 |
| CO-60 | 7.630E-01 | 2.211E+00 | 3.709E+00 | 0.000E+00 | 0.206 |
| ZN-65 | -7.344E-01 | 5.778E+00 | 7.966E+00 | 0.000E+00 | -0.092 |
| SE-75 | 2.367E-01 | 3.197E+00 | 5.310E+00 | 0.000E+00 | 0.045 |
| SR-85 | 1.902E+01 | 2.923E+00 | 5.626E+00 | 0.000E+00 | 3.381 |
| Y-88 | -6.488E-01 | 2.518E+00 | 4.034E+00 | 0.000E+00 | -0.161 |
| NB-94 | 1.117E+00 | 2.116E+00 | 3.522E+00 | 0.000E+00 | 0.317 |
| NB-95 | 3.759E-01 | 2.363E+00 | 3.946E+00 | 0.000E+00 | 0.095 |
| ZR-95 | -1.884E-01 | 4.159E+00 | 6.886E+00 | 0.000E+00 | -0.027 |
| MO-99 | -2.474E+01 | 3.676E+02 | 6.087E+02 | 0.000E+00 | -0.041 |
| RU-103 | 7.955E-01 | 2.805E+00 | 4.688E+00 | 0.000E+00 | 0.170 |
| RU-106 | -1.681E+01 | 2.140E+01 | 3.340E+01 | 0.000E+00 | -0.503 |
| AG-110m | 3.296E-01 | 2.198E+00 | 3.612E+00 | 0.000E+00 | 0.091 |
| SN-113 | -1.665E+00 | 3.156E+00 | 5.061E+00 | 0.000E+00 | -0.329 |
| SB-124 | -3.733E+00 | 6.352E+00 | 4.022E+00 | 0.000E+00 | -0.928 |
| SB-125 | -1.763E+00 | 6.629E+00 | 1.067E+01 | 0.000E+00 | -0.165 |
| TE-129M | 1.236E+01 | 3.100E+01 | 5.222E+01 | 0.000E+00 | 0.237 |
| I-131 | 3.480E+00 | 6.678E+00 | 1.110E+01 | 0.000E+00 | 0.314 |
| BA-133 | 2.732E+00 | 3.188E+00 | 5.348E+00 | 0.000E+00 | 0.511 |
| CS-134 | -7.660E-01 | 5.625E+00 | 3.844E+00 | 0.000E+00 | -0.199 |
| CS-136 | -1.275E+00 | 4.030E+00 | 6.555E+00 | 0.000E+00 | -0.194 |
| CS-137 | 4.159E-01 | 2.385E+00 | 3.922E+00 | 0.000E+00 | 0.106 |
| CE-139 | 1.200E+00 | 2.337E+00 | 3.866E+00 | 0.000E+00 | 0.310 |
| BA-140 | 4.188E+00 | 1.534E+01 | 2.555E+01 | 0.000E+00 | 0.164 |
| LA-140 | 5.800E+00 | 5.070E+00 | 9.017E+00 | 0.000E+00 | 0.643 |
| CE-141 | 4.707E+00 | 5.669E+00 | 8.095E+00 | 0.000E+00 | 0.581 |
| CE-144 | 1.186E+00 | 2.054E+01 | 2.882E+01 | 0.000E+00 | 0.041 |
| EU-152 | -1.158E+01 | 7.397E+00 | 1.161E+01 | 0.000E+00 | -0.998 |
| EU-154 | 2.093E+00 | 4.623E+00 | 7.705E+00 | 0.000E+00 | 0.272 |
| AC-228 | 2.972E+00 | 9.315E+00 | 1.423E+01 | 0.000E+00 | 0.209 |
| TH-228 | -1.949E+00 | 4.679E+00 | 7.184E+00 | 0.000E+00 | -0.271 |
| TH-232 | 2.960E+00 | 9.277E+00 | 1.417E+01 | 0.000E+00 | 0.209 |
| U-235 | 3.737E+01 | 2.042E+01 | 2.989E+01 | 0.000E+00 | 1.250 |
| U-238 | 1.948E+02 | 2.310E+02 | 3.950E+02 | 0.000E+00 | 0.493 |
| AM-241 | -2.865E+01 | 2.160E+01 | 2.998E+01 | 0.000E+00 | -0.955 |

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A,10L28851-3      ,06/13/2006 07:25,05/31/2006 11:40,    3.014E+00,WG L28851-3 EX
B,10L28851-3      ,LIBD                                ,06/07/2006 09:32,103L083004
C,K-40            ,YES,    1.122E+01,    4.339E+01,    3.587E+01,,    0.313
C,RA-226          ,YES,    1.897E+01,    6.623E+01,    8.887E+01,,    0.213
C,BE-7            ,NO ,    8.698E+00,    2.175E+01,    3.657E+01,,    0.238
C,CR-51          ,NO ,   -2.397E+01,    2.646E+01,    4.250E+01,,   -0.564
C,MN-54          ,NO ,    3.815E-01,    2.184E+00,    3.634E+00,,    0.105
C,CO-57          ,NO ,   -1.060E-01,    2.274E+00,    3.759E+00,,   -0.028
C,CO-58          ,NO ,   -5.490E-01,    2.428E+00,    3.971E+00,,   -0.138
C,FE-59          ,NO ,    1.494E+00,    5.101E+00,    8.593E+00,,    0.174
C,CO-60          ,NO ,    7.630E-01,    2.211E+00,    3.709E+00,,    0.206
C,ZN-65          ,NO ,   -7.344E-01,    5.778E+00,    7.966E+00,,   -0.092
C,SE-75          ,NO ,    2.367E-01,    3.197E+00,    5.310E+00,,    0.045
C,SR-85          ,NO ,    1.902E+01,    2.923E+00,    5.626E+00,,    3.381
C,Y-88           ,NO ,   -6.488E-01,    2.518E+00,    4.034E+00,,   -0.161
C,NB-94          ,NO ,    1.117E+00,    2.116E+00,    3.522E+00,,    0.317
C,NB-95          ,NO ,    3.759E-01,    2.363E+00,    3.946E+00,,    0.095
C,ZR-95          ,NO ,   -1.884E-01,    4.159E+00,    6.886E+00,,   -0.027
C,MO-99          ,NO ,   -2.474E+01,    3.676E+02,    6.087E+02,,   -0.041
C,RU-103         ,NO ,    7.955E-01,    2.805E+00,    4.688E+00,,    0.170
C,RU-106         ,NO ,   -1.681E+01,    2.140E+01,    3.340E+01,,   -0.503
C,AG-110m        ,NO ,    3.296E-01,    2.198E+00,    3.612E+00,,    0.091
C,SN-113         ,NO ,   -1.665E+00,    3.156E+00,    5.061E+00,,   -0.329
C,SB-124         ,NO ,   -3.733E+00,    6.352E+00,    4.022E+00,,   -0.928
C,SB-125         ,NO ,   -1.763E+00,    6.629E+00,    1.067E+01,,   -0.165
C,TE-129M        ,NO ,    1.236E+01,    3.100E+01,    5.222E+01,,    0.237
C,I-131          ,NO ,    3.480E+00,    6.678E+00,    1.110E+01,,    0.314
C,BA-133         ,NO ,    2.732E+00,    3.188E+00,    5.348E+00,,    0.511
C,CS-134         ,NO ,   -7.660E-01,    5.625E+00,    3.844E+00,,   -0.199
C,CS-136         ,NO ,   -1.275E+00,    4.030E+00,    6.555E+00,,   -0.194
C,CS-137         ,NO ,    4.159E-01,    2.385E+00,    3.922E+00,,    0.106
C,CE-139         ,NO ,    1.200E+00,    2.337E+00,    3.866E+00,,    0.310
C,BA-140         ,NO ,    4.188E+00,    1.534E+01,    2.555E+01,,    0.164
C,LA-140         ,NO ,    5.800E+00,    5.070E+00,    9.017E+00,,    0.643
C,CE-141         ,NO ,    4.707E+00,    5.669E+00,    8.095E+00,,    0.581
C,CE-144         ,NO ,    1.186E+00,    2.054E+01,    2.882E+01,,    0.041
C,EU-152         ,NO ,   -1.158E+01,    7.397E+00,    1.161E+01,,   -0.998
C,EU-154         ,NO ,    2.093E+00,    4.623E+00,    7.705E+00,,    0.272
C,AC-228         ,NO ,    2.972E+00,    9.315E+00,    1.423E+01,,    0.209
C,TH-228         ,NO ,   -1.949E+00,    4.679E+00,    7.184E+00,,   -0.271
C,TH-232         ,NO ,    2.960E+00,    9.277E+00,    1.417E+01,,    0.209
C,U-235          ,NO ,    3.737E+01,    2.042E+01,    2.989E+01,,    1.250
C,U-238          ,NO ,    1.948E+02,    2.310E+02,    3.950E+02,,    0.493
C,AM-241         ,NO ,   -2.865E+01,    2.160E+01,    2.998E+01,,   -0.955

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Sec. Review: Analyst: LIMS: 

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VAX/VMS Teledyne Brown Eng. Laboratory Gamma Report: 13-JUN-2006 07:25:23.22

TBE11 P-20610B HpGe ***** Aquisition Date/Time: 12-JUN-2006 23:25:00.29

LIMS No., Customer Name, Client ID: WG L28851-4 EX DRES

| | | | |
|---------------|-----------------|---------------|-----------------------|
| Sample ID | : 11L28851-4 | Smple Date: | 31-MAY-2006 13:30:00. |
| Sample Type | : WG | Geometry | : 1135L090204 |
| Quantity | : 3.42020E+00 L | BKGFILE | : 11BG060306MT |
| Start Channel | : 40 | Energy Tol | : 1.00000 |
| End Channel | : 4090 | Pk Srch Sens: | 5.00000 |
| MDA Constant | : 0.00 | Library Used: | LIBD |
| | | Real Time | : 0 08:00:10.02 |
| | | Live time | : 0 08:00:00.00 |

| Pk | It | Energy | Area | Bkgnd | FWHM | Channel | %Eff | Cts/Sec | %Err | Fit |
|----|----|----------|------|-------|------|---------|----------|----------|-------|-----|
| 1 | 0 | 92.68* | 4 | 701 | 2.10 | 184.53 | 1.28E+00 | 1.46E-04 | ***** | |
| 2 | 0 | 139.94* | 136 | 779 | 1.20 | 279.31 | 1.69E+00 | 4.71E-03 | 42.1 | |
| 3 | 0 | 185.43* | 59 | 608 | 1.14 | 370.54 | 1.62E+00 | 2.05E-03 | 89.8 | |
| 4 | 0 | 198.44 | 172 | 555 | 1.20 | 396.63 | 1.57E+00 | 5.96E-03 | 24.9 | |
| 5 | 0 | 238.47* | 0 | 466 | 1.02 | 476.89 | 1.42E+00 | 5.92E-07 | ***** | |
| 6 | 0 | 352.21* | 33 | 352 | 1.52 | 704.88 | 1.08E+00 | 1.16E-03 | 130.0 | |
| 7 | 0 | 595.66 | 57 | 223 | 0.84 | 1192.55 | 7.15E-01 | 1.96E-03 | 52.8 | |
| 8 | 0 | 609.09* | 67 | 181 | 1.83 | 1219.44 | 7.02E-01 | 2.33E-03 | 49.2 | |
| 9 | 0 | 716.52 | 76 | 116 | 3.79 | 1434.49 | 6.19E-01 | 2.65E-03 | 32.0 | |
| 10 | 0 | 911.75* | 47 | 109 | 1.60 | 1825.10 | 5.13E-01 | 1.63E-03 | 65.8 | |
| 11 | 0 | 1460.43* | 26 | 77 | 1.50 | 2921.37 | 3.54E-01 | 9.17E-04 | 98.2 | |
| 12 | 0 | 1761.39 | 46 | 33 | 1.77 | 3521.76 | 3.04E-01 | 1.60E-03 | 28.3 | |

Flag: "*" = Peak area was modified by background subtraction

Nuclide Line Activity Report

Nuclide Type: natural

| Nuclide | Energy | Area | %Abn | %Eff | Uncorrected pCi/L | Decay Corr pCi/L | 2-Sigma %Error |
|---------|---------|-------|--------|-----------|----------------------|---------------------|-------------------|
| K-40 | 1460.81 | 26 | 10.67* | 3.540E-01 | 1.919E+01 | 1.919E+01 | 196.47 |
| RA-226 | 186.21 | 59 | 3.28* | 1.617E+00 | 3.052E+01 | 3.052E+01 | 179.57 |
| AC-228 | 835.50 | ----- | 1.75 | 5.493E-01 | ----- | Line Not Found | ----- |
| | 911.07 | 47 | 27.70* | 5.133E-01 | 9.057E+00 | 9.095E+00 | 131.69 |
| TH-228 | 238.63 | 0 | 44.60* | 1.422E+00 | 7.382E-04 | 7.474E-04 | 564692.25 |
| | 240.98 | ----- | 3.95 | 1.413E+00 | ----- | Line Not Found | ----- |
| U-235 | 143.76 | ----- | 10.50* | 1.695E+00 | ----- | Line Not Found | ----- |
| | 163.35 | ----- | 4.70 | 1.678E+00 | ----- | Line Not Found | ----- |
| | 185.71 | 59 | 54.00 | 1.617E+00 | 1.854E+00 | 1.854E+00 | 179.57 |
| | 205.31 | ----- | 4.70 | 1.546E+00 | ----- | Line Not Found | ----- |

Flag: "*" = Keyline

Summary of Nuclide Activity
 Sample ID : 11L28851-4

Page : 2
 Acquisition date : 12-JUN-2006 23:25:00

Total number of lines in spectrum 12
 Number of unidentified lines 8
 Number of lines tentatively identified by NID 4 33.33%

Nuclide Type : natural

| Nuclide | Hlife | Decay | Uncorrected pCi/L | Decay Corr pCi/L | Decay Corr 2-Sigma Error | 2-Sigma %Error | Flags |
|------------------|-----------|-------|----------------------|---------------------|-----------------------------|-------------------|-------|
| K-40 | 1.28E+09Y | 1.00 | 1.919E+01 | 1.919E+01 | 3.770E+01 | 196.47 | |
| RA-226 | 1600.00Y | 1.00 | 3.052E+01 | 3.052E+01 | 5.480E+01 | 179.57 | |
| AC-228 | 5.75Y | 1.00 | 9.057E+00 | 9.095E+00 | 11.98E+00 | 131.69 | |
| TH-228 | 1.91Y | 1.01 | 7.382E-04 | 7.474E-04 | *****564 | 692.25 | |
| U-235 | 7.04E+08Y | 1.00 | 1.854E+00 | 1.854E+00 | 3.329E+00 | 179.57 | K |
| Total Activity : | | | 6.062E+01 | 6.065E+01 | | | |

Grand Total Activity : 6.062E+01 6.065E+01

Flags: "K" = Keyline not found
 "E" = Manually edited

"M" = Manually accepted
 "A" = Nuclide specific abn. limit

Unidentified Energy Lines
Sample ID : 11L28851-4

Page : 3
Acquisition date : 12-JUN-2006 23:25:00

| It | Energy | Area | Bkgnd | FWHM | Channel | Left | Pw | Cts/Sec | %Err | %Eff | Flags |
|----|---------|------|-------|------|---------|------|----|----------|------|----------|-------|
| 0 | 92.68 | 4 | 701 | 2.10 | 184.53 | 181 | 8 | 1.46E-04 | **** | 1.28E+00 | |
| 0 | 139.94 | 136 | 779 | 1.20 | 279.31 | 275 | 9 | 4.71E-03 | 84.3 | 1.69E+00 | |
| 0 | 198.44 | 172 | 555 | 1.20 | 396.63 | 393 | 8 | 5.96E-03 | 49.8 | 1.57E+00 | |
| 0 | 352.21 | 33 | 352 | 1.52 | 704.88 | 698 | 11 | 1.16E-03 | **** | 1.08E+00 | |
| 0 | 595.66 | 57 | 223 | 0.84 | 1192.55 | 1187 | 11 | 1.96E-03 | **** | 7.15E-01 | |
| 0 | 609.09 | 67 | 181 | 1.83 | 1219.44 | 1212 | 12 | 2.33E-03 | 98.3 | 7.02E-01 | |
| 0 | 716.52 | 76 | 116 | 3.79 | 1434.49 | 1427 | 14 | 2.65E-03 | 63.9 | 6.19E-01 | |
| 0 | 1761.39 | 46 | 33 | 1.77 | 3521.76 | 3516 | 11 | 1.60E-03 | 56.6 | 3.04E-01 | |

Flags: "T" = Tentatively associated

Summary of Nuclide Activity

| | | |
|---|----|--------|
| Total number of lines in spectrum | 12 | |
| Number of unidentified lines | 8 | |
| Number of lines tentatively identified by NID | 4 | 33.33% |

Nuclide Type : natural

| Nuclide | Hlife | Decay | Wtd Mean Uncorrected pCi/L | Wtd Mean Decay Corr pCi/L | Decay Corr 2-Sigma Error | 2-Sigma %Error | Flags |
|------------------|-----------|-------|----------------------------------|---------------------------------|-----------------------------|-------------------|-------|
| K-40 | 1.28E+09Y | 1.00 | 1.919E+01 | 1.919E+01 | 3.770E+01 | 196.47 | |
| RA-226 | 1600.00Y | 1.00 | 3.052E+01 | 3.052E+01 | 5.480E+01 | 179.57 | |
| AC-228 | 5.75Y | 1.00 | 9.057E+00 | 9.095E+00 | 11.98E+00 | 131.69 | |
| TH-228 | 1.91Y | 1.01 | 7.382E-04 | 7.474E-04 | *****564692.25 | | |
| Total Activity : | | | 5.876E+01 | 5.880E+01 | | | |

Grand Total Activity : 5.876E+01 5.880E+01

Flags: "K" = Keyline not found "M" = Manually accepted
"E" = Manually edited "A" = Nuclide specific abn. limit

Interference Report

No interference correction performed

Combined Activity-MDA Report


---- Identified Nuclides ----

| Nuclide | Activity (pCi/L) | Act error | MDA (pCi/L) | MDA error | Act/MDA |
|---------|---------------------|-----------|----------------|-----------|---------|
| K-40 | 1.919E+01 | 3.770E+01 | 3.124E+01 | 0.000E+00 | 0.614 |
| RA-226 | 3.052E+01 | 5.480E+01 | 8.322E+01 | 0.000E+00 | 0.367 |
| AC-228 | 9.095E+00 | 1.198E+01 | 1.241E+01 | 0.000E+00 | 0.733 |
| TH-228 | 7.474E-04 | 4.221E+00 | 6.342E+00 | 0.000E+00 | 0.000 |

---- Non-Identified Nuclides ----

| Nuclide | Activity (pCi/L) | K.L. Ided | Act error | MDA (pCi/L) | MDA error | Act/MDA |
|---------|---------------------|--------------|-----------|---------------------|-----------|---------|
| BE-7 | -1.228E+00 | | 2.135E+01 | 3.476E+01 | 0.000E+00 | -0.035 |
| NA-24 | 5.063E-02 | | 1.271E+00 | Half-Life too short | | |
| CR-51 | -1.916E+01 | | 2.397E+01 | 3.880E+01 | 0.000E+00 | -0.494 |
| MN-54 | -3.029E-01 | | 2.115E+00 | 3.438E+00 | 0.000E+00 | -0.088 |
| CO-57 | -7.052E-01 | | 2.148E+00 | 3.519E+00 | 0.000E+00 | -0.200 |
| CO-58 | -8.803E-01 | | 2.338E+00 | 3.764E+00 | 0.000E+00 | -0.234 |
| FE-59 | 4.289E+00 | | 4.761E+00 | 8.259E+00 | 0.000E+00 | 0.519 |
| CO-60 | 6.497E-01 | | 2.158E+00 | 3.609E+00 | 0.000E+00 | 0.180 |
| ZN-65 | 1.100E+00 | | 4.644E+00 | 7.780E+00 | 0.000E+00 | 0.141 |
| SE-75 | 9.460E-02 | | 2.957E+00 | 4.924E+00 | 0.000E+00 | 0.019 |
| SR-85 | 1.896E+01 | | 2.819E+00 | 5.411E+00 | 0.000E+00 | 3.503 |
| Y-88 | -1.090E+00 | | 2.694E+00 | 4.301E+00 | 0.000E+00 | -0.253 |
| NB-94 | -4.538E-01 | | 2.087E+00 | 3.367E+00 | 0.000E+00 | -0.135 |
| NB-95 | 2.856E+00 | | 2.352E+00 | 4.075E+00 | 0.000E+00 | 0.701 |
| ZR-95 | 1.138E-01 | | 4.217E+00 | 6.944E+00 | 0.000E+00 | 0.016 |
| MO-99 | -1.721E+02 | | 3.699E+02 | 5.960E+02 | 0.000E+00 | -0.289 |
| RU-103 | 4.514E+00 | | 2.734E+00 | 4.708E+00 | 0.000E+00 | 0.959 |
| RU-106 | -1.660E+01 | | 2.036E+01 | 3.265E+01 | 0.000E+00 | -0.508 |
| AG-110m | 7.010E-01 | | 2.168E+00 | 3.634E+00 | 0.000E+00 | 0.193 |
| SN-113 | 5.505E-01 | | 2.954E+00 | 4.883E+00 | 0.000E+00 | 0.113 |
| SB-124 | -5.411E+00 | | 6.326E+00 | 3.941E+00 | 0.000E+00 | -1.373 |
| SB-125 | -1.846E-01 | | 6.243E+00 | 1.022E+01 | 0.000E+00 | -0.018 |
| TE-129M | -4.894E+00 | | 3.111E+01 | 5.056E+01 | 0.000E+00 | -0.097 |
| I-131 | 3.150E-02 | | 6.327E+00 | 1.043E+01 | 0.000E+00 | 0.003 |
| BA-133 | 1.857E+00 | | 3.488E+00 | 4.977E+00 | 0.000E+00 | 0.373 |
| CS-134 | 1.785E+00 | | 3.820E+00 | 3.856E+00 | 0.000E+00 | 0.463 |
| CS-136 | -3.127E-01 | | 3.816E+00 | 6.229E+00 | 0.000E+00 | -0.050 |
| CS-137 | 1.630E+00 | | 2.330E+00 | 3.963E+00 | 0.000E+00 | 0.411 |
| CE-139 | 3.762E-01 | | 2.244E+00 | 3.685E+00 | 0.000E+00 | 0.102 |
| BA-140 | 5.834E+00 | | 1.482E+01 | 2.445E+01 | 0.000E+00 | 0.239 |
| LA-140 | 4.208E-01 | | 4.722E+00 | 7.886E+00 | 0.000E+00 | 0.053 |
| CE-141 | -6.741E-01 | | 5.382E+00 | 7.469E+00 | 0.000E+00 | -0.090 |
| CE-144 | 1.403E+01 | | 1.967E+01 | 2.802E+01 | 0.000E+00 | 0.501 |
| EU-152 | -1.308E+01 | | 8.388E+00 | 1.096E+01 | 0.000E+00 | -1.194 |
| EU-154 | 5.661E-01 | | 4.401E+00 | 7.272E+00 | 0.000E+00 | 0.078 |
| TH-232 | 9.057E+00 | + | 1.193E+01 | 1.478E+01 | 0.000E+00 | 0.613 |
| U-235 | 2.881E+01 | | 1.907E+01 | 2.770E+01 | 0.000E+00 | 1.040 |
| U-238 | 1.659E+02 | | 2.201E+02 | 3.807E+02 | 0.000E+00 | 0.436 |
| AM-241 | -8.490E+01 | | 2.868E+01 | 4.438E+01 | 0.000E+00 | -1.913 |

A,11L28851-4 ,06/13/2006 07:25,05/31/2006 13:30, 3.420E+00,WG L28851-4 EX
 B,11L28851-4 ,LIBD ,06/07/2006 09:40,1135L090204
 C,K-40 ,YES, 1.919E+01, 3.770E+01, 3.124E+01,, 0.614
 C,RA-226 ,YES, 3.052E+01, 5.480E+01, 8.322E+01,, 0.367
 C,AC-228 ,YES, 9.095E+00, 1.198E+01, 1.241E+01,, 0.733
 C,TH-228 ,YES, 7.474E-04, 4.221E+00, 6.342E+00,, 0.000
 C,BE-7 ,NO , -1.228E+00, 2.135E+01, 3.476E+01,, -0.035
 C,CR-51 ,NO , -1.916E+01, 2.397E+01, 3.880E+01,, -0.494
 C,MN-54 ,NO , -3.029E-01, 2.115E+00, 3.438E+00,, -0.088
 C,CO-57 ,NO , -7.052E-01, 2.148E+00, 3.519E+00,, -0.200
 C,CO-58 ,NO , -8.803E-01, 2.338E+00, 3.764E+00,, -0.234
 C,FE-59 ,NO , 4.289E+00, 4.761E+00, 8.259E+00,, 0.519
 C,CO-60 ,NO , 6.497E-01, 2.158E+00, 3.609E+00,, 0.180
 C,ZN-65 ,NO , 1.100E+00, 4.644E+00, 7.780E+00,, 0.141
 C,SE-75 ,NO , 9.460E-02, 2.957E+00, 4.924E+00,, 0.019
 C,SR-85 ,NO , 1.896E+01, 2.819E+00, 5.411E+00,, 3.503
 C,Y-88 ,NO , -1.090E+00, 2.694E+00, 4.301E+00,, -0.253
 C,NB-94 ,NO , -4.538E-01, 2.087E+00, 3.367E+00,, -0.135
 C,NB-95 ,NO , 2.856E+00, 2.352E+00, 4.075E+00,, 0.701
 C,ZR-95 ,NO , 1.138E-01, 4.217E+00, 6.944E+00,, 0.016
 C,MO-99 ,NO , -1.721E+02, 3.699E+02, 5.960E+02,, -0.289
 C,RU-103 ,NO , 4.514E+00, 2.734E+00, 4.708E+00,, 0.959
 C,RU-106 ,NO , -1.660E+01, 2.036E+01, 3.265E+01,, -0.508
 C,AG-110m ,NO , 7.010E-01, 2.168E+00, 3.634E+00,, 0.193
 C,SN-113 ,NO , 5.505E-01, 2.954E+00, 4.883E+00,, 0.113
 C,SB-124 ,NO , -5.411E+00, 6.326E+00, 3.941E+00,, -1.373
 C,SB-125 ,NO , -1.846E-01, 6.243E+00, 1.022E+01,, -0.018
 C,TE-129M ,NO , -4.894E+00, 3.111E+01, 5.056E+01,, -0.097
 C,I-131 ,NO , 3.150E-02, 6.327E+00, 1.043E+01,, 0.003
 C,BA-133 ,NO , 1.857E+00, 3.488E+00, 4.977E+00,, 0.373
 C,CS-134 ,NO , 1.785E+00, 3.820E+00, 3.856E+00,, 0.463
 C,CS-136 ,NO , -3.127E-01, 3.816E+00, 6.229E+00,, -0.050
 C,CS-137 ,NO , 1.630E+00, 2.330E+00, 3.963E+00,, 0.411
 C,CE-139 ,NO , 3.762E-01, 2.244E+00, 3.685E+00,, 0.102
 C,BA-140 ,NO , 5.834E+00, 1.482E+01, 2.445E+01,, 0.239
 C,LA-140 ,NO , 4.208E-01, 4.722E+00, 7.886E+00,, 0.053
 C,CE-141 ,NO , -6.741E-01, 5.382E+00, 7.469E+00,, -0.090
 C,CE-144 ,NO , 1.403E+01, 1.967E+01, 2.802E+01,, 0.501
 C,EU-152 ,NO , -1.308E+01, 8.388E+00, 1.096E+01,, -1.194
 C,EU-154 ,NO , 5.661E-01, 4.401E+00, 7.272E+00,, 0.078
 C,TH-232 ,NO , 9.057E+00, 1.193E+01, 1.478E+01,, 0.613
 C,U-235 ,NO , 2.881E+01, 1.907E+01, 2.770E+01,, 1.040
 C,U-238 ,NO , 1.659E+02, 2.201E+02, 3.807E+02,, 0.436
 C,AM-241 ,NO , -8.490E+01, 2.868E+01, 4.438E+01,, -1.913

Sec. Review: Analyst: LIMS: 

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VAX/VMS Teledyne Brown Eng. Laboratory Gamma Report: 13-JUN-2006 05:25:32.28

TBE13 P-10727B HpGe ***** Aquisition Date/Time: 12-JUN-2006 23:25:06.88

LIMS No., Customer Name, Client ID: WG L28851-5 EX DRES

| | | | |
|---------------|-----------------|---------------|-----------------------|
| Sample ID | : 13L28851-5 | Smple Date: | 31-MAY-2006 14:30:00. |
| Sample Type | : WG | Geometry | : 133L082404 |
| Quantity | : 3.19060E+00 L | BKGFILE | : 13BG060306MT |
| Start Channel | : 25 | Energy Tol | : 1.50000 |
| End Channel | : 4090 | Pk Srch Sens: | 5.00000 |
| MDA Constant | : 0.00 | Library Used: | LIBD |
| | | Real Time | : 0 06:00:05.98 |
| | | Live time | : 0 06:00:00.00 |

| Pk | It | Energy | Area | Bkgnd | FWHM | Channel | %Eff | Cts/Sec | %Err | Fit |
|----|----|----------|------|-------|------|---------|----------|----------|-------|----------|
| 1 | 1 | 46.07* | 78 | 533 | 2.67 | 92.26 | 1.49E-01 | 3.61E-03 | 60.0 | 3.02E+00 |
| 2 | 1 | 66.41 | 175 | 651 | 1.31 | 132.92 | 8.31E-01 | 8.09E-03 | 25.3 | 2.95E+00 |
| 3 | 1 | 139.74* | 113 | 570 | 0.94 | 279.48 | 2.27E+00 | 5.22E-03 | 39.9 | 1.76E+00 |
| 4 | 1 | 185.77* | 20 | 700 | 1.04 | 371.48 | 2.18E+00 | 9.24E-04 | 281.4 | 1.10E+00 |
| 5 | 1 | 198.57* | 160 | 464 | 1.68 | 397.06 | 2.12E+00 | 7.39E-03 | 28.2 | 2.56E+00 |
| 6 | 1 | 583.12* | 0 | 128 | 1.82 | 1165.92 | 1.04E+00 | 1.47E-05 | ***** | 3.65E+00 |
| 7 | 2 | 595.86 | 136 | 125 | 1.79 | 1191.38 | 1.02E+00 | 6.28E-03 | 18.4 | 3.16E+00 |
| 8 | 2 | 599.67 | 62 | 101 | 1.48 | 1199.00 | 1.02E+00 | 2.88E-03 | 31.4 | |
| 9 | 1 | 609.43* | 51 | 164 | 2.24 | 1218.52 | 1.01E+00 | 2.36E-03 | 65.2 | 9.03E-01 |
| 10 | 1 | 1461.61* | 7 | 80 | 2.70 | 2923.62 | 5.14E-01 | 3.02E-04 | 437.6 | 1.90E+00 |

Flag: "*" = Peak area was modified by background subtraction

Nuclide Line Activity Report

Nuclide Type: natural

| Nuclide | Energy | Area | %Abn | %Eff | Uncorrected pCi/L | Decay Corr pCi/L | 2-Sigma %Error |
|---------|---------|-------|--------|-----------|----------------------|---------------------|-------------------|
| K-40 | 1460.81 | 7 | 10.67* | 5.142E-01 | 4.666E+00 | 4.666E+00 | 875.13 |
| RA-226 | 186.21 | 20 | 3.28* | 2.179E+00 | 1.095E+01 | 1.095E+01 | 562.80 |
| U-235 | 143.76 | ----- | 10.50* | 2.278E+00 | ----- | Line Not Found | ----- |
| | 163.35 | ----- | 4.70 | 2.256E+00 | ----- | Line Not Found | ----- |
| | 185.71 | 20 | 54.00 | 2.179E+00 | 6.651E-01 | 6.651E-01 | 562.80 |
| | 205.31 | ----- | 4.70 | 2.093E+00 | ----- | Line Not Found | ----- |

Flag: "*" = Keyline

Summary of Nuclide Activity
 Sample ID : 13L28851-5

Page : 2
 Acquisition date : 12-JUN-2006 23:25:06

Total number of lines in spectrum 10
 Number of unidentified lines 6
 Number of lines tentatively identified by NID 4 40.00%

Nuclide Type : natural

| Nuclide | Hlife | Decay | Uncorrected pCi/L | Decay Corr pCi/L | Decay Corr 2-Sigma Error | 2-Sigma %Error | Flags |
|------------------|-----------|-------|----------------------|---------------------|-----------------------------|-------------------|-------|
| K-40 | 1.28E+09Y | 1.00 | 4.666E+00 | 4.666E+00 | 40.83E+00 | 875.13 | |
| RA-226 | 1600.00Y | 1.00 | 1.095E+01 | 1.095E+01 | 6.163E+01 | 562.80 | |
| U-235 | 7.04E+08Y | 1.00 | 6.651E-01 | 6.651E-01 | 37.43E-01 | 562.80 | K |
| | | | ----- | ----- | | | |
| Total Activity : | | | 1.628E+01 | 1.628E+01 | | | |

Grand Total Activity : 1.628E+01 1.628E+01

Flags: "K" = Keyline not found
 "E" = Manually edited

"M" = Manually accepted
 "A" = Nuclide specific abn. limit

Unidentified Energy Lines
Sample ID : 13L28851-5

Page : 3
Acquisition date : 12-JUN-2006 23:25:06

| It | Energy | Area | Bkgnd | FWHM | Channel | Left | Pw | Cts/Sec | %Err | %Eff | Flags |
|----|--------|------|-------|------|---------|------|----|----------|------|----------|-------|
| 1 | 46.07 | 78 | 533 | 2.67 | 92.26 | 89 | 9 | 3.61E-03 | **** | 1.49E-01 | |
| 1 | 66.41 | 175 | 651 | 1.31 | 132.92 | 130 | 7 | 8.09E-03 | 50.7 | 8.31E-01 | |
| 1 | 139.74 | 113 | 570 | 0.94 | 279.48 | 276 | 7 | 5.22E-03 | 79.8 | 2.27E+00 | |
| 1 | 198.57 | 160 | 464 | 1.68 | 397.06 | 393 | 9 | 7.39E-03 | 56.4 | 2.12E+00 | |
| 1 | 583.12 | 0 | 128 | 1.82 | 1165.92 | 1162 | 9 | 1.47E-05 | **** | 1.04E+00 | T |
| 2 | 595.86 | 136 | 125 | 1.79 | 1191.38 | 1185 | 25 | 6.28E-03 | 36.8 | 1.02E+00 | |
| 2 | 599.67 | 62 | 101 | 1.48 | 1199.00 | 1185 | 25 | 2.88E-03 | 62.8 | 1.02E+00 | T |
| 1 | 609.43 | 51 | 164 | 2.24 | 1218.52 | 1211 | 14 | 2.36E-03 | **** | 1.01E+00 | |

Flags: "T" = Tentatively associated

Summary of Nuclide Activity

| | | |
|---|----|--------|
| Total number of lines in spectrum | 10 | |
| Number of unidentified lines | 6 | |
| Number of lines tentatively identified by NID | 4 | 40.00% |

Nuclide Type : natural

| Nuclide | Hlife | Decay | Wtd Mean Uncorrected pCi/L | Wtd Mean Decay Corr pCi/L | Decay Corr 2-Sigma Error | 2-Sigma %Error | Flags |
|------------------|-----------|-------|----------------------------------|---------------------------------|-----------------------------|-------------------|-------|
| K-40 | 1.28E+09Y | 1.00 | 4.666E+00 | 4.666E+00 | 40.83E+00 | 875.13 | |
| RA-226 | 1600.00Y | 1.00 | 1.095E+01 | 1.095E+01 | 6.163E+01 | 562.80 | |
| Total Activity : | | | 1.562E+01 | 1.562E+01 | | | |

Grand Total Activity : 1.562E+01 1.562E+01

Flags: "K" = Keyline not found "M" = Manually accepted
"E" = Manually edited "A" = Nuclide specific abn. limit

Interference Report

No interference correction performed

Combined Activity-MDA Report

---- Identified Nuclides ----

| Nuclide | Activity (pCi/L) | Act error | MDA (pCi/L) | MDA error | Act/MDA |
|---------|---------------------|-----------|----------------|-----------|---------|
| K-40 | 4.666E+00 | 4.083E+01 | 3.209E+01 | 0.000E+00 | 0.145 |
| RA-226 | 1.095E+01 | 6.163E+01 | 7.562E+01 | 0.000E+00 | 0.145 |

---- Non-Identified Nuclides ----

| Nuclide | Key-Line Activity (pCi/L) | K.L. Ided | Act error | MDA (pCi/L) | MDA error | Act/MDA |
|---------|---------------------------------|--------------|-----------|----------------|-----------|---------|
| BE-7 | 1.721E+01 | | 1.921E+01 | 3.243E+01 | 0.000E+00 | 0.531 |

| | | | | |
|---------|------------|-----------|---------------------|------------------|
| NA-24 | -3.833E-01 | 1.167E+00 | Half-Life too short | |
| CR-51 | -1.254E+01 | 2.215E+01 | 3.539E+01 | 0.000E+00 -0.355 |
| MN-54 | 1.227E+00 | 2.102E+00 | 3.558E+00 | 0.000E+00 0.345 |
| CO-57 | 2.014E-01 | 1.823E+00 | 3.048E+00 | 0.000E+00 0.066 |
| CO-58 | 1.575E+00 | 2.198E+00 | 3.755E+00 | 0.000E+00 0.419 |
| FE-59 | 4.993E+00 | 4.800E+00 | 8.340E+00 | 0.000E+00 0.599 |
| CO-60 | -1.255E+00 | 2.205E+00 | 3.509E+00 | 0.000E+00 -0.358 |
| ZN-65 | -9.860E-01 | 4.433E+00 | 7.191E+00 | 0.000E+00 -0.137 |
| SE-75 | -7.189E-01 | 2.712E+00 | 4.440E+00 | 0.000E+00 -0.162 |
| SR-85 | 1.656E+01 | 2.775E+00 | 5.245E+00 | 0.000E+00 3.157 |
| Y-88 | -2.886E-01 | 2.527E+00 | 4.095E+00 | 0.000E+00 -0.070 |
| NB-94 | -6.187E-01 | 1.985E+00 | 3.186E+00 | 0.000E+00 -0.194 |
| NB-95 | 1.747E+00 | 2.104E+00 | 3.629E+00 | 0.000E+00 0.481 |
| ZR-95 | -4.158E-01 | 3.915E+00 | 6.469E+00 | 0.000E+00 -0.064 |
| MO-99 | 2.026E+02 | 3.542E+02 | 6.042E+02 | 0.000E+00 0.335 |
| RU-103 | 1.017E+00 | 2.542E+00 | 4.197E+00 | 0.000E+00 0.242 |
| RU-106 | -1.853E-01 | 1.844E+01 | 3.031E+01 | 0.000E+00 -0.006 |
| AG-110m | 2.931E-02 | 2.072E+00 | 3.394E+00 | 0.000E+00 0.009 |
| SN-113 | 1.029E+00 | 2.619E+00 | 4.399E+00 | 0.000E+00 0.234 |
| SB-124 | 2.351E+00 | 4.576E+00 | 3.678E+00 | 0.000E+00 0.639 |
| SB-125 | -1.623E+00 | 5.789E+00 | 9.433E+00 | 0.000E+00 -0.172 |
| TE-129M | 2.760E+00 | 2.838E+01 | 4.662E+01 | 0.000E+00 0.059 |
| I-131 | 5.726E-01 | 5.609E+00 | 9.375E+00 | 0.000E+00 0.061 |
| BA-133 | -1.677E+00 | 2.671E+00 | 4.371E+00 | 0.000E+00 -0.384 |
| CS-134 | 3.430E+00 | 4.061E+00 | 3.418E+00 | 0.000E+00 1.004 |
| CS-136 | -3.545E+00 | 3.700E+00 | 5.801E+00 | 0.000E+00 -0.611 |
| CS-137 | 2.389E+00 | 2.400E+00 | 3.875E+00 | 0.000E+00 0.616 |
| CE-139 | 4.134E-01 | 1.915E+00 | 3.153E+00 | 0.000E+00 0.131 |
| BA-140 | 4.873E+00 | 1.347E+01 | 2.273E+01 | 0.000E+00 0.214 |
| LA-140 | 3.514E+00 | 4.349E+00 | 7.628E+00 | 0.000E+00 0.461 |
| CE-141 | 3.041E+00 | 4.336E+00 | 6.549E+00 | 0.000E+00 0.464 |
| CE-144 | -1.568E+01 | 1.559E+01 | 2.245E+01 | 0.000E+00 -0.698 |
| EU-152 | -1.064E+01 | 6.401E+00 | 9.787E+00 | 0.000E+00 -1.087 |
| EU-154 | 2.233E+00 | 3.737E+00 | 6.313E+00 | 0.000E+00 0.354 |
| AC-228 | 1.178E+00 | 9.330E+00 | 1.414E+01 | 0.000E+00 0.083 |
| TH-228 | 1.552E+00 | 4.110E+00 | 6.561E+00 | 0.000E+00 0.237 |
| TH-232 | 1.174E+00 | 9.292E+00 | 1.408E+01 | 0.000E+00 0.083 |
| U-235 | -1.357E+00 | 1.717E+01 | 2.346E+01 | 0.000E+00 -0.058 |
| U-238 | -2.637E+01 | 2.479E+02 | 3.796E+02 | 0.000E+00 -0.069 |
| AM-241 | -2.544E+01 | 1.646E+01 | 2.627E+01 | 0.000E+00 -0.968 |

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A,13L28851-5      ,06/13/2006 05:25,05/31/2006 14:30,    3.191E+00,WG L28851-5 EX
B,13L28851-5      ,LIBD      ,08/05/2005 08:16,133L082404
C,K-40      ,YES,    4.666E+00,    4.083E+01,    3.209E+01,,    0.145
C,RA-226    ,YES,    1.095E+01,    6.163E+01,    7.562E+01,,    0.145
C,BE-7      ,NO ,    1.721E+01,    1.921E+01,    3.243E+01,,    0.531
C,CR-51     ,NO ,   -1.254E+01,    2.215E+01,    3.539E+01,,   -0.355
C,MN-54     ,NO ,    1.227E+00,    2.102E+00,    3.558E+00,,    0.345
C,CO-57     ,NO ,    2.014E-01,    1.823E+00,    3.048E+00,,    0.066
C,CO-58     ,NO ,    1.575E+00,    2.198E+00,    3.755E+00,,    0.419
C,FE-59     ,NO ,    4.993E+00,    4.800E+00,    8.340E+00,,    0.599
C,CO-60     ,NO ,   -1.255E+00,    2.205E+00,    3.509E+00,,   -0.358
C,ZN-65     ,NO ,   -9.860E-01,    4.433E+00,    7.191E+00,,   -0.137
C,SE-75     ,NO ,   -7.189E-01,    2.712E+00,    4.440E+00,,   -0.162
C,SR-85     ,NO ,    1.656E+01,    2.775E+00,    5.245E+00,,    3.157
C,Y-88      ,NO ,   -2.886E-01,    2.527E+00,    4.095E+00,,   -0.070
C,NB-94     ,NO ,   -6.187E-01,    1.985E+00,    3.186E+00,,   -0.194
C,NB-95     ,NO ,    1.747E+00,    2.104E+00,    3.629E+00,,    0.481
C,ZR-95     ,NO ,   -4.158E-01,    3.915E+00,    6.469E+00,,   -0.064
C,MO-99     ,NO ,    2.026E+02,    3.542E+02,    6.042E+02,,    0.335
C,RU-103    ,NO ,    1.017E+00,    2.542E+00,    4.197E+00,,    0.242
C,RU-106    ,NO ,   -1.853E-01,    1.844E+01,    3.031E+01,,   -0.006
C,AG-110m   ,NO ,    2.931E-02,    2.072E+00,    3.394E+00,,    0.009
C,SN-113    ,NO ,    1.029E+00,    2.619E+00,    4.399E+00,,    0.234
C,SB-124    ,NO ,    2.351E+00,    4.576E+00,    3.678E+00,,    0.639
C,SB-125    ,NO ,   -1.623E+00,    5.789E+00,    9.433E+00,,   -0.172
C,TE-129M   ,NO ,    2.760E+00,    2.838E+01,    4.662E+01,,    0.059
C,I-131     ,NO ,    5.726E-01,    5.609E+00,    9.375E+00,,    0.061
C,BA-133    ,NO ,   -1.677E+00,    2.671E+00,    4.371E+00,,   -0.384
C,CS-134    ,NO ,    3.430E+00,    4.061E+00,    3.418E+00,,    1.004
C,CS-136    ,NO ,   -3.545E+00,    3.700E+00,    5.801E+00,,   -0.611
C,CS-137    ,NO ,    2.389E+00,    2.400E+00,    3.875E+00,,    0.616
C,CE-139    ,NO ,    4.134E-01,    1.915E+00,    3.153E+00,,    0.131
C,BA-140    ,NO ,    4.873E+00,    1.347E+01,    2.273E+01,,    0.214
C,LA-140    ,NO ,    3.514E+00,    4.349E+00,    7.628E+00,,    0.461
C,CE-141    ,NO ,    3.041E+00,    4.336E+00,    6.549E+00,,    0.464
C,CE-144    ,NO ,   -1.568E+01,    1.559E+01,    2.245E+01,,   -0.698
C,EU-152    ,NO ,   -1.064E+01,    6.401E+00,    9.787E+00,,   -1.087
C,EU-154    ,NO ,    2.233E+00,    3.737E+00,    6.313E+00,,    0.354
C,AC-228    ,NO ,    1.178E+00,    9.330E+00,    1.414E+01,,    0.083
C,TH-228    ,NO ,    1.552E+00,    4.110E+00,    6.561E+00,,    0.237
C,TH-232    ,NO ,    1.174E+00,    9.292E+00,    1.408E+01,,    0.083
C,U-235     ,NO ,   -1.357E+00,    1.717E+01,    2.346E+01,,   -0.058
C,U-238     ,NO ,   -2.637E+01,    2.479E+02,    3.796E+02,,   -0.069
C,AM-241    ,NO ,   -2.544E+01,    1.646E+01,    2.627E+01,,   -0.968

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Sec. Review: Analyst: *MM* LIMS: *✓*

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VAX/VMS Teledyne Brown Eng. Laboratory Gamma Report: 13-JUN-2006 07:25:22.98
 TBE14 P-10933A HpGe ***** Aquisition Date/Time: 12-JUN-2006 23:25:11.02

LIMS No., Customer Name, Client ID: WG L28851-6 EX DRES

| | | | |
|---------------|-----------------|---------------|-----------------------|
| Sample ID | : 14L28851-6 | Smple Date: | 31-MAY-2006 15:20:00. |
| Sample Type | : WG | Geometry | : 143L082304 |
| Quantity | : 3.09010E+00 L | BKGFILE | : 14BG060306MT |
| Start Channel | : 90 | Energy Tol | : 1.00000 |
| End Channel | : 4090 | Pk Srch Sens: | 5.00000 |
| MDA Constant | : 0.00 | Library Used: | LIBD |
| | | Real Time | : 0 08:00:04.56 |
| | | Live time | : 0 08:00:00.00 |

| Pk | It | Energy | Area | Bkgnd | FWHM | Channel | %Eff | Cts/Sec | %Err | Fit |
|----|----|----------|------|-------|------|---------|----------|----------|-------|----------|
| 1 | 1 | 66.24 | 291 | 1017 | 1.67 | 133.46 | 5.09E-01 | 1.01E-02 | 20.6 | 5.37E-01 |
| 2 | 1 | 92.77* | 56 | 816 | 1.49 | 186.66 | 1.28E+00 | 1.94E-03 | 102.5 | 1.81E+00 |
| 3 | 1 | 140.11 | 253 | 857 | 1.56 | 281.58 | 1.90E+00 | 8.77E-03 | 21.7 | 1.37E+00 |
| 4 | 1 | 186.01* | 30 | 747 | 1.89 | 373.58 | 1.88E+00 | 1.03E-03 | 199.0 | 8.27E-01 |
| 5 | 1 | 198.90* | 194 | 913 | 2.98 | 399.41 | 1.83E+00 | 6.75E-03 | 35.0 | 2.20E+00 |
| 6 | 1 | 583.04* | 35 | 203 | 3.64 | 1167.88 | 8.62E-01 | 1.22E-03 | 103.1 | 1.31E+00 |
| 7 | 1 | 596.09 | 78 | 196 | 1.82 | 1193.97 | 8.48E-01 | 2.73E-03 | 35.5 | 1.37E+00 |
| 8 | 1 | 609.04* | 55 | 220 | 2.60 | 1219.82 | 8.34E-01 | 1.91E-03 | 70.1 | 1.29E+00 |
| 9 | 1 | 911.11* | 27 | 152 | 3.16 | 1822.34 | 6.16E-01 | 9.35E-04 | 117.7 | 1.00E+00 |
| 10 | 1 | 1120.87* | 35 | 72 | 2.83 | 2239.88 | 5.30E-01 | 1.20E-03 | 67.9 | 1.34E+00 |
| 11 | 1 | 1238.24 | 52 | 62 | 3.42 | 2473.19 | 4.93E-01 | 1.82E-03 | 35.3 | 1.84E+00 |
| 12 | 1 | 1461.22* | 42 | 61 | 2.71 | 2915.88 | 4.36E-01 | 1.47E-03 | 69.9 | 1.22E+00 |

Flag: "*" = Peak area was modified by background subtraction

Nuclide Line Activity Report

Nuclide Type: natural

| Nuclide | Energy | Area | %Abn | %Eff | Uncorrected pCi/L | Decay Corr pCi/L | 2-Sigma %Error |
|---------|---------|-------|--------|-----------|----------------------|---------------------|-------------------|
| K-40 | 1460.81 | 42 | 10.67* | 4.362E-01 | 2.768E+01 | 2.768E+01 | 139.88 |
| RA-226 | 186.21 | 30 | 3.28* | 1.876E+00 | 1.468E+01 | 1.468E+01 | 398.03 |
| AC-228 | 835.50 | ----- | 1.75 | 6.571E-01 | ----- | Line Not Found | ----- |
| | 911.07 | 27 | 27.70* | 6.165E-01 | 4.790E+00 | 4.810E+00 | 235.47 |
| TH-232 | 583.14 | 35 | 30.25 | 8.622E-01 | 4.084E+00 | 4.084E+00 | 206.30 |
| | 911.07 | 27 | 27.70* | 6.165E-01 | 4.790E+00 | 4.790E+00 | 235.47 |
| | 969.11 | ----- | 16.60 | 5.892E-01 | ----- | Line Not Found | ----- |
| U-235 | 143.76 | ----- | 10.50* | 1.907E+00 | ----- | Line Not Found | ----- |
| | 163.35 | ----- | 4.70 | 1.923E+00 | ----- | Line Not Found | ----- |
| | 185.71 | 30 | 54.00 | 1.876E+00 | 8.914E-01 | 8.914E-01 | 398.03 |
| | 205.31 | ----- | 4.70 | 1.809E+00 | ----- | Line Not Found | ----- |

Flag: "*" = Keyline

Summary of Nuclide Activity
 Sample ID : 14L28851-6

Page : 2
 Acquisition date : 12-JUN-2006 23:25:11

Total number of lines in spectrum 12
 Number of unidentified lines 8
 Number of lines tentatively identified by NID 4 33.33%

Nuclide Type : natural

| Nuclide | Hlife | Decay | Uncorrected pCi/L | Decay Corr pCi/L | Decay Corr 2-Sigma Error | 2-Sigma %Error | Flags |
|------------------|-----------|-------|----------------------|---------------------|-----------------------------|-------------------|-------|
| K-40 | 1.28E+09Y | 1.00 | 2.768E+01 | 2.768E+01 | 3.872E+01 | 139.88 | |
| RA-226 | 1600.00Y | 1.00 | 1.468E+01 | 1.468E+01 | 5.842E+01 | 398.03 | |
| AC-228 | 5.75Y | 1.00 | 4.790E+00 | 4.810E+00 | 11.33E+00 | 235.47 | |
| TH-232 | 1.41E+10Y | 1.00 | 4.790E+00 | 4.790E+00 | 11.28E+00 | 235.47 | |
| U-235 | 7.04E+08Y | 1.00 | 8.914E-01 | 8.914E-01 | 35.48E-01 | 398.03 | K |
| Total Activity : | | | 5.283E+01 | 5.285E+01 | | | |

Grand Total Activity : 5.283E+01 5.285E+01

Flags: "K" = Keyline not found
 "E" = Manually edited

"M" = Manually accepted
 "A" = Nuclide specific abn. limit

Unidentified Energy Lines
Sample ID : 14L28851-6

Page : 3
Acquisition date : 12-JUN-2006 23:25:11

| It | Energy | Area | Bkgnd | FWHM | Channel | Left | Pw | Cts/Sec | %Err | %Eff | Flags |
|----|---------|------|-------|------|---------|------|----|----------|------|----------|-------|
| 1 | 66.24 | 291 | 1017 | 1.67 | 133.46 | 129 | 9 | 1.01E-02 | 41.3 | 5.09E-01 | |
| 1 | 92.77 | 56 | 816 | 1.49 | 186.66 | 183 | 8 | 1.94E-03 | **** | 1.28E+00 | |
| 1 | 140.11 | 253 | 857 | 1.56 | 281.58 | 277 | 9 | 8.77E-03 | 43.4 | 1.90E+00 | |
| 1 | 198.90 | 194 | 913 | 2.98 | 399.41 | 393 | 13 | 6.75E-03 | 70.0 | 1.83E+00 | |
| 1 | 596.09 | 78 | 196 | 1.82 | 1193.97 | 1190 | 10 | 2.73E-03 | 71.0 | 8.48E-01 | |
| 1 | 609.04 | 55 | 220 | 2.60 | 1219.82 | 1213 | 14 | 1.91E-03 | **** | 8.34E-01 | |
| 1 | 1120.87 | 35 | 72 | 2.83 | 2239.88 | 2234 | 13 | 1.20E-03 | **** | 5.30E-01 | |
| 1 | 1238.24 | 52 | 62 | 3.42 | 2473.19 | 2467 | 13 | 1.82E-03 | 70.5 | 4.93E-01 | |

Flags: "T" = Tentatively associated

Summary of Nuclide Activity

| | | |
|---|----|--------|
| Total number of lines in spectrum | 12 | |
| Number of unidentified lines | 8 | |
| Number of lines tentatively identified by NID | 4 | 33.33% |

Nuclide Type : natural

| Nuclide | Hlife | Decay | Wtd Mean Uncorrected pCi/L | Wtd Mean Decay Corr pCi/L | Decay Corr 2-Sigma Error | 2-Sigma %Error | Flags |
|------------------|-----------|-------|----------------------------------|---------------------------------|-----------------------------|-------------------|-------|
| K-40 | 1.28E+09Y | 1.00 | 2.768E+01 | 2.768E+01 | 3.872E+01 | 139.88 | |
| RA-226 | 1600.00Y | 1.00 | 1.468E+01 | 1.468E+01 | 5.842E+01 | 398.03 | |
| AC-228 | 5.75Y | 1.00 | 7.062E-01 | 7.091E-01 | 141.4E-01 | 1993.62 | |
| TH-232 | 1.41E+10Y | 1.00 | 4.084E+00 | 4.084E+00 | 8.425E+00 | 206.30 | |
| Total Activity : | | | 4.715E+01 | 4.715E+01 | | | |

Grand Total Activity : 4.715E+01 4.715E+01

Flags: "K" = Keyline not found "M" = Manually accepted
"E" = Manually edited "A" = Nuclide specific abn. limit

Interference Report

| Interfering | | Interfered | |
|-------------|--------|------------|--------|
| Nuclide | Line | Nuclide | Line |
| TH-232 | 911.07 | AC-228 | 911.07 |

Combined Activity-MDA Report

---- Identified Nuclides ----

| Nuclide | Activity (pCi/L) | Act error | MDA (pCi/L) | MDA error | Act/MDA |
|---------|---------------------|-----------|----------------|-----------|---------|
| K-40 | 2.768E+01 | 3.872E+01 | 3.315E+01 | 0.000E+00 | 0.835 |
| RA-226 | 1.468E+01 | 5.842E+01 | 8.241E+01 | 0.000E+00 | 0.178 |
| AC-228 | 7.091E-01 | 1.414E+01 | 1.300E+01 | 0.000E+00 | 0.055 |


---- Non-Identified Nuclides ----

| Nuclide | Key-Line Activity (pCi/L) | K.L. Ided | Act error | MDA (pCi/L) | MDA error | Act/MDA |
|---------|---------------------------------|--------------|-----------|---------------------|-----------|---------|
| BE-7 | -1.767E+01 | | 2.176E+01 | 3.494E+01 | 0.000E+00 | -0.506 |
| NA-24 | -1.080E+00 | | 1.241E+00 | Half-Life too short | | |
| CR-51 | -1.287E+01 | | 2.485E+01 | 4.021E+01 | 0.000E+00 | -0.320 |
| MN-54 | 1.921E+00 | | 2.365E+00 | 3.984E+00 | 0.000E+00 | 0.482 |
| CO-57 | 1.337E+00 | | 2.243E+00 | 3.761E+00 | 0.000E+00 | 0.355 |
| CO-58 | -1.856E+00 | | 2.367E+00 | 3.730E+00 | 0.000E+00 | -0.498 |
| FE-59 | 1.527E+00 | | 5.016E+00 | 8.329E+00 | 0.000E+00 | 0.183 |
| CO-60 | 3.116E-01 | | 2.345E+00 | 3.889E+00 | 0.000E+00 | 0.080 |
| ZN-65 | 7.271E+00 | | 5.881E+00 | 8.758E+00 | 0.000E+00 | 0.830 |
| SE-75 | -7.633E-01 | | 2.989E+00 | 4.916E+00 | 0.000E+00 | -0.155 |
| SR-85 | 2.189E+01 | | 2.923E+00 | 5.634E+00 | 0.000E+00 | 3.886 |
| Y-88 | -1.997E+00 | | 2.591E+00 | 4.006E+00 | 0.000E+00 | -0.499 |
| NB-94 | -4.464E-01 | | 2.223E+00 | 3.639E+00 | 0.000E+00 | -0.123 |
| NB-95 | 1.248E+00 | | 2.494E+00 | 4.172E+00 | 0.000E+00 | 0.299 |
| ZR-95 | -3.684E+00 | | 4.402E+00 | 6.975E+00 | 0.000E+00 | -0.528 |
| MO-99 | -7.057E+00 | | 3.745E+02 | 6.151E+02 | 0.000E+00 | -0.011 |
| RU-103 | 4.761E-01 | | 2.893E+00 | 4.779E+00 | 0.000E+00 | 0.100 |
| RU-106 | -7.333E+00 | | 2.186E+01 | 3.452E+01 | 0.000E+00 | -0.212 |
| AG-110m | 8.204E-01 | | 2.264E+00 | 3.798E+00 | 0.000E+00 | 0.216 |
| SN-113 | -1.442E+00 | | 3.147E+00 | 5.037E+00 | 0.000E+00 | -0.286 |
| SB-124 | -1.554E+00 | | 6.033E+00 | 3.981E+00 | 0.000E+00 | -0.390 |
| SB-125 | -4.569E-01 | | 6.411E+00 | 1.060E+01 | 0.000E+00 | -0.043 |
| TE-129M | 1.526E+00 | | 3.220E+01 | 5.323E+01 | 0.000E+00 | 0.029 |
| I-131 | -1.004E+00 | | 6.527E+00 | 1.058E+01 | 0.000E+00 | -0.095 |
| BA-133 | 4.901E+00 | | 3.116E+00 | 5.287E+00 | 0.000E+00 | 0.927 |
| CS-134 | 1.594E+00 | | 5.359E+00 | 3.835E+00 | 0.000E+00 | 0.416 |
| CS-136 | 5.005E-01 | | 3.958E+00 | 6.501E+00 | 0.000E+00 | 0.077 |
| CS-137 | 1.781E+00 | | 2.407E+00 | 4.092E+00 | 0.000E+00 | 0.435 |
| CE-139 | -2.123E-01 | | 2.233E+00 | 3.656E+00 | 0.000E+00 | -0.058 |
| BA-140 | -1.036E+01 | | 1.508E+01 | 2.408E+01 | 0.000E+00 | -0.430 |
| LA-140 | 1.827E+00 | | 4.619E+00 | 7.838E+00 | 0.000E+00 | 0.233 |
| CE-141 | 1.520E+00 | | 5.440E+00 | 7.675E+00 | 0.000E+00 | 0.198 |
| CE-144 | -7.120E+00 | | 2.002E+01 | 2.788E+01 | 0.000E+00 | -0.255 |
| EU-152 | -1.551E+01 | | 7.135E+00 | 1.099E+01 | 0.000E+00 | -1.411 |
| EU-154 | 7.917E-01 | | 4.593E+00 | 7.643E+00 | 0.000E+00 | 0.104 |
| TH-228 | 4.887E+00 | | 4.437E+00 | 7.024E+00 | 0.000E+00 | 0.696 |
| U-235 | 2.639E+01 | | 1.952E+01 | 2.833E+01 | 0.000E+00 | 0.931 |
| U-238 | -2.147E+01 | | 2.412E+02 | 3.955E+02 | 0.000E+00 | -0.054 |
| AM-241 | -3.217E+01 | | 3.452E+01 | 4.714E+01 | 0.000E+00 | -0.683 |

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A,14L28851-6      ,06/13/2006 07:25,05/31/2006 15:20,    3.090E+00,WG L28851-6 EX
B,14L28851-6      ,LIBD      ,06/02/2006 08:23,143L082304
C,K-40      ,YES,    2.768E+01,    3.872E+01,    3.315E+01,,    0.835
C,RA-226    ,YES,    1.468E+01,    5.842E+01,    8.241E+01,,    0.178
C,AC-228    ,YES,    7.091E-01,    1.414E+01,    1.300E+01,,    0.055
C,TH-232    ,YES,    4.084E+00,    8.425E+00,    1.443E+01,,    0.283
C,BE-7      ,NO ,    -1.767E+01,    2.176E+01,    3.494E+01,,   -0.506
C,CR-51     ,NO ,    -1.287E+01,    2.485E+01,    4.021E+01,,   -0.320
C,MN-54     ,NO ,    1.921E+00,    2.365E+00,    3.984E+00,,    0.482
C,CO-57     ,NO ,    1.337E+00,    2.243E+00,    3.761E+00,,    0.355
C,CO-58     ,NO ,    -1.856E+00,    2.367E+00,    3.730E+00,,   -0.498
C,FE-59     ,NO ,    1.527E+00,    5.016E+00,    8.329E+00,,    0.183
C,CO-60     ,NO ,    3.116E-01,    2.345E+00,    3.889E+00,,    0.080
C,ZN-65     ,NO ,    7.271E+00,    5.881E+00,    8.758E+00,,    0.830
C,SE-75     ,NO ,    -7.633E-01,    2.989E+00,    4.916E+00,,   -0.155
C,SR-85     ,NO ,    2.189E+01,    2.923E+00,    5.634E+00,,    3.886
C,Y-88      ,NO ,    -1.997E+00,    2.591E+00,    4.006E+00,,   -0.499
C,NB-94     ,NO ,    -4.464E-01,    2.223E+00,    3.639E+00,,   -0.123
C,NB-95     ,NO ,    1.248E+00,    2.494E+00,    4.172E+00,,    0.299
C,ZR-95     ,NO ,    -3.684E+00,    4.402E+00,    6.975E+00,,   -0.528
C,MO-99     ,NO ,    -7.057E+00,    3.745E+02,    6.151E+02,,   -0.011
C,RU-103    ,NO ,    4.761E-01,    2.893E+00,    4.779E+00,,    0.100
C,RU-106    ,NO ,    -7.333E+00,    2.186E+01,    3.452E+01,,   -0.212
C,AG-110m   ,NO ,    8.204E-01,    2.264E+00,    3.798E+00,,    0.216
C,SN-113    ,NO ,    -1.442E+00,    3.147E+00,    5.037E+00,,   -0.286
C,SB-124    ,NO ,    -1.554E+00,    6.033E+00,    3.981E+00,,   -0.390
C,SB-125    ,NO ,    -4.569E-01,    6.411E+00,    1.060E+01,,   -0.043
C,TE-129M   ,NO ,    1.526E+00,    3.220E+01,    5.323E+01,,    0.029
C,I-131     ,NO ,    -1.004E+00,    6.527E+00,    1.058E+01,,   -0.095
C,BA-133    ,NO ,    4.901E+00,    3.116E+00,    5.287E+00,,    0.927
C,CS-134    ,NO ,    1.594E+00,    5.359E+00,    3.835E+00,,    0.416
C,CS-136    ,NO ,    5.005E-01,    3.958E+00,    6.501E+00,,    0.077
C,CS-137    ,NO ,    1.781E+00,    2.407E+00,    4.092E+00,,    0.435
C,CE-139    ,NO ,    -2.123E-01,    2.233E+00,    3.656E+00,,   -0.058
C,BA-140    ,NO ,    -1.036E+01,    1.508E+01,    2.408E+01,,   -0.430
C,LA-140    ,NO ,    1.827E+00,    4.619E+00,    7.838E+00,,    0.233
C,CE-141    ,NO ,    1.520E+00,    5.440E+00,    7.675E+00,,    0.198
C,CE-144    ,NO ,    -7.120E+00,    2.002E+01,    2.788E+01,,   -0.255
C,EU-152    ,NO ,    -1.551E+01,    7.135E+00,    1.099E+01,,   -1.411
C,EU-154    ,NO ,    7.917E-01,    4.593E+00,    7.643E+00,,    0.104
C,TH-228    ,NO ,    4.887E+00,    4.437E+00,    7.024E+00,,    0.696
C,U-235     ,NO ,    2.639E+01,    1.952E+01,    2.833E+01,,    0.931
C,U-238     ,NO ,    -2.147E+01,    2.412E+02,    3.955E+02,,   -0.054
C,AM-241    ,NO ,    -3.217E+01,    3.452E+01,    4.714E+01,,   -0.683

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Sec. Review: Analyst: LIMS: 

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VAX/VMS Teledyne Brown Eng. Laboratory Gamma Report: 13-JUN-2006 07:25:32.22

TBE15 P-10635B HpGe ***** Aquisition Date/Time: 12-JUN-2006 23:25:16.71

LIMS No., Customer Name, Client ID: WG L28851-7 EX DRES

| | | | |
|---------------|-----------------|---------------|-----------------------|
| Sample ID | : 15L28851-7 | Smple Date: | 1-JUN-2006 09:00:00.0 |
| Sample Type | : WG | Geometry | : 153L082604 |
| Quantity | : 3.08810E+00 L | BKGFILE | : 15BG060306MT |
| Start Channel | : 40 | Energy Tol | : 1.50000 |
| End Channel | : 4090 | Pk Srch Sens: | 5.00000 |
| MDA Constant | : 0.00 | Live time | : 0 08:00:00.00 |
| | | Library Used: | LIBD |

| Pk | It | Energy | Area | Bkgnd | FWHM | Channel | %Eff | Cts/Sec | %Err | Fit |
|----|----|----------|------|-------|------|---------|----------|----------|------|----------|
| 1 | 1 | 139.55 | 239 | 717 | 1.71 | 267.39 | 1.66E+00 | 8.31E-03 | 21.1 | 2.43E+00 |
| 2 | 1 | 198.42 | 166 | 532 | 1.29 | 385.78 | 1.54E+00 | 5.75E-03 | 25.4 | 2.29E+00 |
| 3 | 1 | 294.47 | 54 | 266 | 1.52 | 578.91 | 1.18E+00 | 1.87E-03 | 52.0 | 1.30E+00 |
| 4 | 1 | 595.77 | 115 | 178 | 2.05 | 1184.61 | 6.54E-01 | 3.99E-03 | 25.1 | 1.53E+00 |
| 5 | 1 | 608.94 | 109 | 168 | 2.53 | 1211.08 | 6.43E-01 | 3.79E-03 | 26.4 | 2.68E+00 |
| 6 | 1 | 1459.75* | 96 | 39 | 3.07 | 2920.09 | 3.23E-01 | 3.32E-03 | 25.4 | 1.57E+00 |
| 7 | 1 | 1764.01 | 35 | 18 | 2.17 | 3530.79 | 2.78E-01 | 1.22E-03 | 30.8 | 6.00E-01 |

Flag: "*" = Peak area was modified by background subtraction

Nuclide Line Activity Report

Nuclide Type: natural

| Nuclide | Energy | Area | %Abn | %Eff | Uncorrected pCi/L | Decay Corr pCi/L | 2-Sigma %Error |
|---------|---------|------|--------|-----------|----------------------|---------------------|-------------------|
| K-40 | 1460.81 | 96 | 10.67* | 3.227E-01 | 8.430E+01 | 8.430E+01 | 50.85 |

Flag: "*" = Keyline

Summary of Nuclide Activity

Page : 2

Sample ID : 15L28851-7

Acquisition date : 12-JUN-2006 23:25:16

| | | |
|---|---|--------|
| Total number of lines in spectrum | 7 | |
| Number of unidentified lines | 6 | |
| Number of lines tentatively identified by NID | 1 | 14.29% |

Nuclide Type : natural

| Nuclide | Hlife | Decay | Uncorrected pCi/L | Decay Corr pCi/L | Decay Corr 2-Sigma Error | 2-Sigma %Error | Flags |
|------------------|-----------|-------|----------------------|---------------------|-----------------------------|-------------------|-------|
| K-40 | 1.28E+09Y | 1.00 | 8.430E+01 | 8.430E+01 | 4.286E+01 | 50.85 | |
| Total Activity : | | | 8.430E+01 | 8.430E+01 | | | |

| | | |
|------------------------|-----------|-----------|
| Grand Total Activity : | 8.430E+01 | 8.430E+01 |
|------------------------|-----------|-----------|

Flags: "K" = Keyline not found
 "E" = Manually edited

"M" = Manually accepted
 "A" = Nuclide specific abn. limit

Unidentified Energy Lines
Sample ID : 15L28851-7

Page : 3
Acquisition date : 12-JUN-2006 23:25:16

| It | Energy | Area | Bkgnd | FWHM | Channel | Left | Pw | Cts/Sec | %Err | %Eff | Flags |
|----|---------|------|-------|------|---------|------|----|----------|------|----------|-------|
| 1 | 139.55 | 239 | 717 | 1.71 | 267.39 | 262 | 9 | 8.31E-03 | 42.2 | 1.66E+00 | |
| 1 | 198.42 | 166 | 532 | 1.29 | 385.78 | 382 | 8 | 5.75E-03 | 50.9 | 1.54E+00 | |
| 1 | 294.47 | 54 | 266 | 1.52 | 578.91 | 576 | 7 | 1.87E-03 | **** | 1.18E+00 | |
| 1 | 595.77 | 115 | 178 | 2.05 | 1184.61 | 1178 | 12 | 3.99E-03 | 50.2 | 6.54E-01 | |
| 1 | 608.94 | 109 | 168 | 2.53 | 1211.08 | 1205 | 13 | 3.79E-03 | 52.8 | 6.43E-01 | |
| 1 | 1764.01 | 35 | 18 | 2.17 | 3530.79 | 3524 | 14 | 1.22E-03 | 61.7 | 2.78E-01 | |

Flags: "T" = Tentatively associated

Summary of Nuclide Activity

| | |
|---|---------------|
| Total number of lines in spectrum | 7 |
| Number of unidentified lines | 6 |
| Number of lines tentatively identified by NID | 1 14.29% |

Nuclide Type : natural

| Nuclide | Hlife | Decay | Wtd Mean Uncorrected pCi/L | Wtd Mean Decay Corr pCi/L | Decay Corr 2-Sigma Error | 2-Sigma %Error | Flags |
|------------------|-----------|-------|----------------------------------|---------------------------------|-----------------------------|-------------------|-------|
| K-40 | 1.28E+09Y | 1.00 | 8.430E+01 | 8.430E+01 | 4.286E+01 | 50.85 | |
| Total Activity : | | | 8.430E+01 | 8.430E+01 | | | |

Grand Total Activity : 8.430E+01 8.430E+01

Flags: "K" = Keyline not found "M" = Manually accepted
"E" = Manually edited "A" = Nuclide specific abn. limit

Interference Report

No interference correction performed

Combined Activity-MDA Report

---- Identified Nuclides ----

| Nuclide | Activity (pCi/L) | Act error | MDA (pCi/L) | MDA error | Act/MDA |
|---------|---------------------|-----------|----------------|-----------|---------|
| K-40 | 8.430E+01 | 4.286E+01 | 3.873E+01 | 0.000E+00 | 2.176 |

---- Non-Identified Nuclides ----

| Nuclide | Key-Line Activity (pCi/L) | K.L. Ided | Act error | MDA (pCi/L) | MDA error | Act/MDA |
|---------|---------------------------------|--------------|-----------|---------------------|-----------|---------|
| BE-7 | -2.849E+01 | | 2.365E+01 | 3.767E+01 | 0.000E+00 | -0.756 |
| NA-24 | -6.208E-01 | | 6.025E-01 | Half-Life too short | | |
| CR-51 | -1.211E+01 | | 2.585E+01 | 4.218E+01 | 0.000E+00 | -0.287 |

| | | | | | |
|---------|------------|-----------|-----------|-----------|--------|
| CO-58 | -8.668E-01 | 2.584E+00 | 4.190E+00 | 0.000E+00 | -0.207 |
| FE-59 | 5.969E+00 | 5.165E+00 | 9.117E+00 | 0.000E+00 | 0.655 |
| CO-60 | -4.201E-01 | 2.630E+00 | 4.237E+00 | 0.000E+00 | -0.099 |
| ZN-65 | 2.345E+00 | 5.035E+00 | 8.546E+00 | 0.000E+00 | 0.274 |
| SE-75 | -1.493E+00 | 3.318E+00 | 5.294E+00 | 0.000E+00 | -0.282 |
| SR-85 | 1.276E+01 | 3.060E+00 | 5.662E+00 | 0.000E+00 | 2.253 |
| Y-88 | -1.178E+00 | 3.168E+00 | 5.097E+00 | 0.000E+00 | -0.231 |
| NB-94 | 1.077E+00 | 2.399E+00 | 3.974E+00 | 0.000E+00 | 0.271 |
| NB-95 | 8.424E-01 | 2.615E+00 | 4.398E+00 | 0.000E+00 | 0.192 |
| ZR-95 | 3.409E-01 | 4.790E+00 | 7.968E+00 | 0.000E+00 | 0.043 |
| MO-99 | -1.677E+02 | 3.520E+02 | 5.716E+02 | 0.000E+00 | -0.293 |
| RU-103 | 1.492E+00 | 2.930E+00 | 4.952E+00 | 0.000E+00 | 0.301 |
| RU-106 | -7.372E+00 | 2.334E+01 | 3.765E+01 | 0.000E+00 | -0.196 |
| AG-110m | 8.797E-01 | 2.489E+00 | 4.122E+00 | 0.000E+00 | 0.213 |
| SN-113 | 7.754E-01 | 3.319E+00 | 5.469E+00 | 0.000E+00 | 0.142 |
| SB-124 | -4.556E-01 | 5.939E+00 | 4.289E+00 | 0.000E+00 | -0.106 |
| SB-125 | -3.273E+00 | 6.861E+00 | 1.096E+01 | 0.000E+00 | -0.299 |
| TE-129M | 3.001E+00 | 3.416E+01 | 5.550E+01 | 0.000E+00 | 0.054 |
| I-131 | 2.726E-02 | 6.587E+00 | 1.082E+01 | 0.000E+00 | 0.003 |
| BA-133 | -1.996E+00 | 3.233E+00 | 5.212E+00 | 0.000E+00 | -0.383 |
| CS-134 | 4.861E+00 | 3.853E+00 | 4.319E+00 | 0.000E+00 | 1.126 |
| CS-136 | -5.382E-01 | 4.241E+00 | 6.947E+00 | 0.000E+00 | -0.077 |
| CS-137 | 1.848E+00 | 2.668E+00 | 4.485E+00 | 0.000E+00 | 0.412 |
| CE-139 | -1.106E+00 | 2.235E+00 | 3.656E+00 | 0.000E+00 | -0.303 |
| BA-140 | -4.236E+00 | 1.598E+01 | 2.612E+01 | 0.000E+00 | -0.162 |
| LA-140 | -1.757E+00 | 5.234E+00 | 8.368E+00 | 0.000E+00 | -0.210 |
| CE-141 | 3.307E+00 | 5.163E+00 | 7.748E+00 | 0.000E+00 | 0.427 |
| CE-144 | -6.619E+00 | 1.949E+01 | 2.757E+01 | 0.000E+00 | -0.240 |
| EU-152 | -1.048E+01 | 7.243E+00 | 1.139E+01 | 0.000E+00 | -0.920 |
| EU-154 | -5.510E+00 | 4.970E+00 | 7.451E+00 | 0.000E+00 | -0.739 |
| RA-226 | -1.946E+01 | 6.207E+01 | 9.330E+01 | 0.000E+00 | -0.209 |
| AC-228 | 1.546E+01 | 9.354E+00 | 1.656E+01 | 0.000E+00 | 0.934 |
| TH-228 | 9.303E-01 | 4.685E+00 | 6.980E+00 | 0.000E+00 | 0.133 |
| TH-232 | 1.540E+01 | 9.318E+00 | 1.649E+01 | 0.000E+00 | 0.934 |
| U-235 | 2.016E+01 | 1.899E+01 | 2.790E+01 | 0.000E+00 | 0.723 |
| U-238 | 7.591E+01 | 2.827E+02 | 4.664E+02 | 0.000E+00 | 0.163 |
| AM-241 | -3.514E+01 | 2.610E+01 | 4.201E+01 | 0.000E+00 | -0.836 |

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A,15L28851-7      ,06/13/2006 07:25,06/01/2006 09:00,    3.088E+00,WG L28851-7 EX
B,15L28851-7      ,LIBD      ,06/06/2006 10:43,153L082604
C,K-40      ,YES,    8.430E+01,    4.286E+01,    3.873E+01,,    2.176
C,BE-7      ,NO ,    -2.849E+01,    2.365E+01,    3.767E+01,,    -0.756
C,CR-51     ,NO ,    -1.211E+01,    2.585E+01,    4.218E+01,,    -0.287
C,MN-54     ,NO ,    9.743E-02,    2.485E+00,    4.101E+00,,    0.024
C,CO-57     ,NO ,    -5.015E-01,    2.407E+00,    3.684E+00,,    -0.136
C,CO-58     ,NO ,    -8.668E-01,    2.584E+00,    4.190E+00,,    -0.207
C,FE-59     ,NO ,    5.969E+00,    5.165E+00,    9.117E+00,,    0.655
C,CO-60     ,NO ,    -4.201E-01,    2.630E+00,    4.237E+00,,    -0.099
C,ZN-65     ,NO ,    2.345E+00,    5.035E+00,    8.546E+00,,    0.274
C,SE-75     ,NO ,    -1.493E+00,    3.318E+00,    5.294E+00,,    -0.282
C,SR-85     ,NO ,    1.276E+01,    3.060E+00,    5.662E+00,,    2.253
C,Y-88      ,NO ,    -1.178E+00,    3.168E+00,    5.097E+00,,    -0.231
C,NB-94     ,NO ,    1.077E+00,    2.399E+00,    3.974E+00,,    0.271
C,NB-95     ,NO ,    8.424E-01,    2.615E+00,    4.398E+00,,    0.192
C,ZR-95     ,NO ,    3.409E-01,    4.790E+00,    7.968E+00,,    0.043
C,MO-99     ,NO ,    -1.677E+02,    3.520E+02,    5.716E+02,,    -0.293
C,RU-103    ,NO ,    1.492E+00,    2.930E+00,    4.952E+00,,    0.301
C,RU-106    ,NO ,    -7.372E+00,    2.334E+01,    3.765E+01,,    -0.196
C,AG-110m   ,NO ,    8.797E-01,    2.489E+00,    4.122E+00,,    0.213
C,SN-113    ,NO ,    7.754E-01,    3.319E+00,    5.469E+00,,    0.142
C,SB-124    ,NO ,    -4.556E-01,    5.939E+00,    4.289E+00,,    -0.106
C,SB-125    ,NO ,    -3.273E+00,    6.861E+00,    1.096E+01,,    -0.299
C,TE-129M   ,NO ,    3.001E+00,    3.416E+01,    5.550E+01,,    0.054
C,I-131     ,NO ,    2.726E-02,    6.587E+00,    1.082E+01,,    0.003
C,BA-133    ,NO ,    -1.996E+00,    3.233E+00,    5.212E+00,,    -0.383
C,CS-134    ,NO ,    4.861E+00,    3.853E+00,    4.319E+00,,    1.126
C,CS-136    ,NO ,    -5.382E-01,    4.241E+00,    6.947E+00,,    -0.077
C,CS-137    ,NO ,    1.848E+00,    2.668E+00,    4.485E+00,,    0.412
C,CE-139    ,NO ,    -1.106E+00,    2.235E+00,    3.656E+00,,    -0.303
C,BA-140    ,NO ,    -4.236E+00,    1.598E+01,    2.612E+01,,    -0.162
C,LA-140    ,NO ,    -1.757E+00,    5.234E+00,    8.368E+00,,    -0.210
C,CE-141    ,NO ,    3.307E+00,    5.163E+00,    7.748E+00,,    0.427
C,CE-144    ,NO ,    -6.619E+00,    1.949E+01,    2.757E+01,,    -0.240
C,EU-152    ,NO ,    -1.048E+01,    7.243E+00,    1.139E+01,,    -0.920
C,EU-154    ,NO ,    -5.510E+00,    4.970E+00,    7.451E+00,,    -0.739
C,RA-226    ,NO ,    -1.946E+01,    6.207E+01,    9.330E+01,,    -0.209
C,AC-228    ,NO ,    1.546E+01,    9.354E+00,    1.656E+01,,    0.934
C,TH-228    ,NO ,    9.303E-01,    4.685E+00,    6.980E+00,,    0.133
C,TH-232    ,NO ,    1.540E+01,    9.318E+00,    1.649E+01,,    0.934
C,U-235     ,NO ,    2.016E+01,    1.899E+01,    2.790E+01,,    0.723
C,U-238     ,NO ,    7.591E+01,    2.827E+02,    4.664E+02,,    0.163
C,AM-241    ,NO ,    -3.514E+01,    2.610E+01,    4.201E+01,,    -0.836

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Sec. Review: Analyst: LIMS: ✓

VAX/VMS Teledyne Brown Eng. Laboratory Gamma Report: 13-JUN-2006 13:24:05.67
 TBE04 P-40312B HpGe ***** Aquisition Date/Time: 13-JUN-2006 10:07:34.92

LIMS No., Customer Name, Client ID: WG L28851-8 DRESDEN

Sample ID : 04L28851-8 Sample Date: 1-JUN-2006 09:40:00.0
 Sample Type : WG Geometry : 043L082004
 Quantity : 3.12170E+00 L BKGFILE : 04BG060305MT
 Start Channel : 90 Energy Tol : 1.00000 Real Time : 0 03:16:23.99
 End Channel : 4090 Pk Srch Sens: 5.00000 Live time : 0 03:16:22.02
 MDA Constant : 0.00 Library Used: LIBD

| Pk | It | Energy | Area | Bkgnd | FWHM | Channel | %Eff | Cts/Sec | %Err | Fit |
|----|----|----------|------|-------|------|---------|----------|----------|-------|----------|
| 1 | 1 | 64.28 | 226 | 618 | 4.04 | 129.23 | 5.89E-01 | 1.92E-02 | 26.7 | 3.62E+00 |
| 2 | 1 | 139.79* | 66 | 310 | 1.67 | 280.17 | 2.04E+00 | 5.59E-03 | 54.5 | 1.60E+00 |
| 3 | 1 | 198.46* | 65 | 211 | 1.09 | 397.45 | 1.86E+00 | 5.48E-03 | 41.9 | 1.02E+00 |
| 4 | 1 | 595.72 | 48 | 72 | 2.06 | 1191.65 | 8.63E-01 | 4.11E-03 | 33.6 | 4.23E+00 |
| 5 | 1 | 1130.71 | 20 | 14 | 2.19 | 2261.36 | 5.23E-01 | 1.67E-03 | 39.8 | 2.35E+00 |
| 6 | 1 | 1173.18* | 20 | 28 | 3.09 | 2346.29 | 5.08E-01 | 1.73E-03 | 62.2 | 4.16E+00 |
| 7 | 1 | 1460.88* | 11 | 26 | 2.67 | 2921.61 | 4.30E-01 | 9.23E-04 | 129.0 | 8.22E-01 |

Flag: "*" = Peak area was modified by background subtraction

Nuclide Line Activity Report

Nuclide Type: natural

| Nuclide | Energy | Area | %Abn | %Eff | Uncorrected pCi/L | Decay Corr pCi/L | 2-Sigma %Error |
|---------|---------|------|--------|-----------|----------------------|---------------------|-------------------|
| K-40 | 1460.81 | 11 | 10.67* | 4.296E-01 | 1.743E+01 | 1.743E+01 | 257.92 |

Nuclide Type: activation

| Nuclide | Energy | Area | %Abn | %Eff | Uncorrected pCi/L | Decay Corr pCi/L | 2-Sigma %Error |
|---------|---------|-------|---------|-----------|----------------------|---------------------|-------------------|
| CO-60 | 1173.22 | 20 | 100.00 | 5.085E-01 | 2.939E+00 | 2.952E+00 | 124.34 |
| | 1332.49 | ----- | 100.00* | 4.604E-01 | ----- | Line Not Found | ----- |

Flag: "*" = Keyline

Summary of Nuclide Activity
 Sample ID : 04L28851-8

Page : 2
 Acquisition date : 13-JUN-2006 10:07:34

| | | |
|---|---|--------|
| Total number of lines in spectrum | 7 | |
| Number of unidentified lines | 5 | |
| Number of lines tentatively identified by NID | 2 | 28.57% |

Nuclide Type : natural

| Nuclide | Hlife | Decay | Uncorrected pCi/L | Decay Corr pCi/L | Decay Corr 2-Sigma Error | 2-Sigma %Error | Flags |
|------------------|-----------|-------|----------------------|---------------------|-----------------------------|-------------------|-------|
| K-40 | 1.28E+09Y | 1.00 | 1.743E+01 | 1.743E+01 | 4.496E+01 | 257.92 | |
| Total Activity : | | | 1.743E+01 | 1.743E+01 | | | |

Nuclide Type : activation

| Nuclide | Hlife | Decay | Uncorrected pCi/L | Decay Corr pCi/L | Decay Corr 2-Sigma Error | 2-Sigma %Error | Flags |
|------------------|-------|-------|----------------------|---------------------|-----------------------------|-------------------|-------|
| CO-60 | 5.27Y | 1.00 | 2.939E+00 | 2.952E+00 | 3.670E+00 | 124.34 | K |
| Total Activity : | | | 2.939E+00 | 2.952E+00 | | | |

Grand Total Activity : 2.037E+01 2.038E+01

Flags: "K" = Keyline not found
 "E" = Manually edited

"M" = Manually accepted
 "A" = Nuclide specific abn. limit

Unidentified Energy Lines
Sample ID : 04L28851-8

Acquisition date : 13-JUN-2006 10:07:34

| It | Energy | Area | Bkgnd | FWHM | Channel | Left | Pw | Cts/Sec | %Err | %Eff | Flags |
|----|---------|------|-------|------|---------|------|----|----------|------|----------|-------|
| 1 | 64.28 | 226 | 618 | 4.04 | 129.23 | 121 | 18 | 1.92E-02 | 53.4 | 5.89E-01 | |
| 1 | 139.79 | 66 | 310 | 1.67 | 280.17 | 274 | 11 | 5.59E-03 | **** | 2.04E+00 | |
| 1 | 198.46 | 65 | 211 | 1.09 | 397.45 | 393 | 8 | 5.48E-03 | 83.7 | 1.86E+00 | |
| 1 | 595.72 | 48 | 72 | 2.06 | 1191.65 | 1188 | 9 | 4.11E-03 | 67.1 | 8.63E-01 | |
| 1 | 1130.71 | 20 | 14 | 2.19 | 2261.36 | 2257 | 9 | 1.67E-03 | 79.6 | 5.23E-01 | |

Flags: "T" = Tentatively associated

Summary of Nuclide Activity

| | | |
|---|---|--------|
| Total number of lines in spectrum | 7 | |
| Number of unidentified lines | 5 | |
| Number of lines tentatively identified by NID | 2 | 28.57% |

Nuclide Type : natural

| Nuclide | Hlife | Decay | Wtd Mean Uncorrected pCi/L | Wtd Mean Decay Corr pCi/L | Decay Corr 2-Sigma Error | 2-Sigma %Error | Flags |
|------------------|-----------|-------|----------------------------------|---------------------------------|-----------------------------|-------------------|-------|
| K-40 | 1.28E+09Y | 1.00 | 1.743E+01 | 1.743E+01 | 4.496E+01 | 257.92 | |
| Total Activity : | | | 1.743E+01 | 1.743E+01 | | | |

Nuclide Type : activation

| Nuclide | Hlife | Decay | Wtd Mean Uncorrected pCi/L | Wtd Mean Decay Corr pCi/L | Decay Corr 2-Sigma Error | 2-Sigma %Error | Flags |
|------------------|-------|-------|----------------------------------|---------------------------------|-----------------------------|-------------------|-------|
| CO-60 | 5.27Y | 1.00 | 2.939E+00 | 2.952E+00 | 3.670E+00 | 124.34 | |
| Total Activity : | | | 2.939E+00 | 2.952E+00 | | | |

Grand Total Activity : 2.037E+01 2.038E+01

Flags: "K" = Keyline not found
"E" = Manually edited

"M" = Manually accepted
"A" = Nuclide specific abn. limit

Interference Report

No interference correction performed

Combined Activity-MDA Report

---- Identified Nuclides ----

| Nuclide | Activity (pCi/L) | Act error | MDA (pCi/L) | MDA error | Act/MDA |
|---------|---------------------|-----------|----------------|-----------|---------|
| K-40 | 1.743E+01 | 4.496E+01 | 4.943E+01 | 0.000E+00 | 0.353 |
| CO-60 | 2.952E+00 | 3.670E+00 | 5.647E+00 | 0.000E+00 | 0.523 |

---- Non-Identified Nuclides ----

Key-Line

| Nuclide | Activity (pCi/L) | K.L. Ided | Act error | MDA (pCi/L) | MDA error | Act/MDA |
|---------|---------------------|--------------|-----------|---------------------|-----------|---------|
| BE-7 | 1.969E+01 | | 2.663E+01 | 4.594E+01 | 0.000E+00 | 0.429 |
| NA-24 | -2.947E+00 | | 1.096E+00 | Half-Life too short | | |
| CR-51 | -1.262E+01 | | 3.290E+01 | 5.344E+01 | 0.000E+00 | -0.236 |
| MN-54 | -1.324E+00 | | 3.036E+00 | 4.763E+00 | 0.000E+00 | -0.278 |
| CO-57 | -1.157E-01 | | 2.681E+00 | 4.366E+00 | 0.000E+00 | -0.027 |
| CO-58 | 5.455E-01 | | 3.219E+00 | 5.314E+00 | 0.000E+00 | 0.103 |
| FE-59 | 1.791E+00 | | 6.738E+00 | 1.122E+01 | 0.000E+00 | 0.160 |
| ZN-65 | 3.473E+00 | | 6.103E+00 | 1.063E+01 | 0.000E+00 | 0.327 |
| SE-75 | -5.924E+00 | | 3.948E+00 | 5.940E+00 | 0.000E+00 | -0.997 |
| SR-85 | 1.906E+01 | | 3.955E+00 | 7.764E+00 | 0.000E+00 | 2.455 |
| Y-88 | -3.781E-01 | | 3.903E+00 | 6.370E+00 | 0.000E+00 | -0.059 |
| NB-94 | -6.464E-01 | | 2.799E+00 | 4.540E+00 | 0.000E+00 | -0.142 |
| NB-95 | 3.159E-02 | | 3.136E+00 | 5.137E+00 | 0.000E+00 | 0.006 |
| ZR-95 | 9.647E-01 | | 5.627E+00 | 9.339E+00 | 0.000E+00 | 0.103 |
| MO-99 | -8.751E+00 | | 4.684E+02 | 7.679E+02 | 0.000E+00 | -0.011 |
| RU-103 | 1.527E+00 | | 3.477E+00 | 5.880E+00 | 0.000E+00 | 0.260 |
| RU-106 | 1.448E+00 | | 2.786E+01 | 4.651E+01 | 0.000E+00 | 0.031 |
| AG-110m | 4.548E-01 | | 2.846E+00 | 4.768E+00 | 0.000E+00 | 0.095 |
| SN-113 | -7.358E-01 | | 4.062E+00 | 6.555E+00 | 0.000E+00 | -0.112 |
| SB-124 | -9.432E+00 | | 4.886E+00 | 5.593E+00 | 0.000E+00 | -1.686 |
| SB-125 | 9.631E-01 | | 7.973E+00 | 1.338E+01 | 0.000E+00 | 0.072 |
| TE-129M | 2.843E+01 | | 4.174E+01 | 7.172E+01 | 0.000E+00 | 0.396 |
| I-131 | -1.303E+00 | | 8.437E+00 | 1.371E+01 | 0.000E+00 | -0.095 |
| BA-133 | -6.447E-01 | | 4.151E+00 | 6.760E+00 | 0.000E+00 | -0.095 |
| CS-134 | 7.744E-01 | | 3.681E+00 | 5.420E+00 | 0.000E+00 | 0.143 |
| CS-136 | -7.762E-01 | | 5.609E+00 | 9.034E+00 | 0.000E+00 | -0.086 |
| CS-137 | 4.622E-01 | | 3.164E+00 | 5.291E+00 | 0.000E+00 | 0.087 |
| CE-139 | -1.845E+00 | | 2.721E+00 | 4.428E+00 | 0.000E+00 | -0.417 |
| BA-140 | -2.257E+00 | | 1.888E+01 | 3.071E+01 | 0.000E+00 | -0.073 |
| LA-140 | 1.663E-01 | | 7.194E+00 | 1.183E+01 | 0.000E+00 | 0.014 |
| CE-141 | 8.569E+00 | | 6.066E+00 | 9.035E+00 | 0.000E+00 | 0.948 |
| CE-144 | -8.141E+00 | | 2.394E+01 | 3.265E+01 | 0.000E+00 | -0.249 |
| EU-152 | -2.219E+01 | | 9.704E+00 | 1.426E+01 | 0.000E+00 | -1.556 |
| EU-154 | 5.126E+00 | | 5.438E+00 | 9.153E+00 | 0.000E+00 | 0.560 |
| RA-226 | -1.337E+01 | | 6.685E+01 | 1.109E+02 | 0.000E+00 | -0.121 |
| AC-228 | 6.920E+00 | | 1.161E+01 | 2.062E+01 | 0.000E+00 | 0.336 |
| TH-228 | 2.498E+00 | | 5.576E+00 | 9.677E+00 | 0.000E+00 | 0.258 |
| TH-232 | 6.893E+00 | | 1.156E+01 | 2.054E+01 | 0.000E+00 | 0.336 |
| U-235 | 1.385E+01 | | 2.264E+01 | 3.241E+01 | 0.000E+00 | 0.427 |
| U-238 | -7.623E+01 | | 3.313E+02 | 5.325E+02 | 0.000E+00 | -0.143 |
| AM-241 | 2.310E+01 | | 3.044E+01 | 4.410E+01 | 0.000E+00 | 0.524 |


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A,04L28851-8      ,06/13/2006 13:24,06/01/2006 09:40,    3.122E+00,WG L28851-8 DR
B,04L28851-8      ,LIBD      ,06/13/2006 09:42,043L082004
C,K-40      ,YES,    1.743E+01,    4.496E+01,    4.943E+01,,    0.353
C,CO-60      ,YES,    2.952E+00,    3.670E+00,    5.647E+00,,    0.523
C,BE-7       ,NO ,    1.969E+01,    2.663E+01,    4.594E+01,,    0.429
C,CR-51      ,NO ,   -1.262E+01,    3.290E+01,    5.344E+01,,   -0.236
C,MN-54      ,NO ,   -1.324E+00,    3.036E+00,    4.763E+00,,   -0.278
C,CO-57      ,NO ,   -1.157E-01,    2.681E+00,    4.366E+00,,   -0.027
C,CO-58      ,NO ,    5.455E-01,    3.219E+00,    5.314E+00,,    0.103
C,FE-59      ,NO ,    1.791E+00,    6.738E+00,    1.122E+01,,    0.160
C,ZN-65      ,NO ,    3.473E+00,    6.103E+00,    1.063E+01,,    0.327
C,SE-75      ,NO ,   -5.924E+00,    3.948E+00,    5.940E+00,,   -0.997
C,SR-85      ,NO ,    1.906E+01,    3.955E+00,    7.764E+00,,    2.455
C,Y-88       ,NO ,   -3.781E-01,    3.903E+00,    6.370E+00,,   -0.059
C,NB-94      ,NO ,   -6.464E-01,    2.799E+00,    4.540E+00,,   -0.142
C,NB-95      ,NO ,    3.159E-02,    3.136E+00,    5.137E+00,,    0.006
C,ZR-95      ,NO ,    9.647E-01,    5.627E+00,    9.339E+00,,    0.103
C,MO-99      ,NO ,   -8.751E+00,    4.684E+02,    7.679E+02,,   -0.011
C,RU-103     ,NO ,    1.527E+00,    3.477E+00,    5.880E+00,,    0.260
C,RU-106     ,NO ,    1.448E+00,    2.786E+01,    4.651E+01,,    0.031
C,AG-110m    ,NO ,    4.548E-01,    2.846E+00,    4.768E+00,,    0.095
C,SN-113     ,NO ,   -7.358E-01,    4.062E+00,    6.555E+00,,   -0.112
C,SB-124     ,NO ,   -9.432E+00,    4.886E+00,    5.593E+00,,   -1.686
C,SB-125     ,NO ,    9.631E-01,    7.973E+00,    1.338E+01,,    0.072
C,TE-129M    ,NO ,    2.843E+01,    4.174E+01,    7.172E+01,,    0.396
C,I-131      ,NO ,   -1.303E+00,    8.437E+00,    1.371E+01,,   -0.095
C,BA-133     ,NO ,   -6.447E-01,    4.151E+00,    6.760E+00,,   -0.095
C,CS-134     ,NO ,    7.744E-01,    3.681E+00,    5.420E+00,,    0.143
C,CS-136     ,NO ,   -7.762E-01,    5.609E+00,    9.034E+00,,   -0.086
C,CS-137     ,NO ,    4.622E-01,    3.164E+00,    5.291E+00,,    0.087
C,CE-139     ,NO ,   -1.845E+00,    2.721E+00,    4.428E+00,,   -0.417
C,BA-140     ,NO ,   -2.257E+00,    1.888E+01,    3.071E+01,,   -0.073
C,LA-140     ,NO ,    1.663E-01,    7.194E+00,    1.183E+01,,    0.014
C,CE-141     ,NO ,    8.569E+00,    6.066E+00,    9.035E+00,,    0.948
C,CE-144     ,NO ,   -8.141E+00,    2.394E+01,    3.265E+01,,   -0.249
C,EU-152     ,NO ,   -2.219E+01,    9.704E+00,    1.426E+01,,   -1.556
C,EU-154     ,NO ,    5.126E+00,    5.438E+00,    9.153E+00,,    0.560
C,RA-226     ,NO ,   -1.337E+01,    6.685E+01,    1.109E+02,,   -0.121
C,AC-228     ,NO ,    6.920E+00,    1.161E+01,    2.062E+01,,    0.336
C,TH-228     ,NO ,    2.498E+00,    5.576E+00,    9.677E+00,,    0.258
C,TH-232     ,NO ,    6.893E+00,    1.156E+01,    2.054E+01,,    0.336
C,U-235      ,NO ,    1.385E+01,    2.264E+01,    3.241E+01,,    0.427
C,U-238      ,NO ,   -7.623E+01,    3.313E+02,    5.325E+02,,   -0.143
C,AM-241     ,NO ,    2.310E+01,    3.044E+01,    4.410E+01,,    0.524

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Sec. Review: Analyst: LIMS: ✓

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VAX/VMS Teledyne Brown Eng. Laboratory Gamma Report: 13-JUN-2006 13:24:45.70

TBE07 P-10768B HpGe ***** Aquisition Date/Time: 13-JUN-2006 10:07:37.31

LIMS No., Customer Name, Client ID: WG L28851-9 DRESDEN

| | | | |
|---------------|-----------------|---------------|-----------------------|
| Sample ID | : 07L28851-9 | Smple Date: | 1-JUN-2006 11:20:00.0 |
| Sample Type | : WG | Geometry | : 0735L090904 |
| Quantity | : 3.29800E+00 L | BKGFILE | : 07BG060306MT |
| Start Channel | : 40 | Energy Tol | : 1.00000 |
| End Channel | : 4090 | Pk Srch Sens: | 5.00000 |
| MDA Constant | : 0.00 | Library Used: | LIBD |
| | | Real Time | : 0 03:17:03.89 |
| | | Live time | : 0 03:17:01.59 |

| Pk | It | Energy | Area | Bkgnd | FWHM | Channel | %Eff | Cts/Sec | %Err | Fit |
|----|----|---------|------|-------|------|---------|----------|----------|------|----------|
| 1 | 1 | 66.31* | 131 | 302 | 1.43 | 133.20 | 7.24E-01 | 1.10E-02 | 25.8 | 1.19E+00 |
| 2 | 1 | 139.95* | 83 | 316 | 1.14 | 280.60 | 2.09E+00 | 7.06E-03 | 42.1 | 7.52E-01 |
| 3 | 1 | 596.12 | 60 | 101 | 2.25 | 1193.41 | 9.96E-01 | 5.09E-03 | 36.8 | 2.61E+00 |
| 4 | 1 | 609.24* | 66 | 92 | 2.06 | 1219.66 | 9.81E-01 | 5.63E-03 | 36.3 | 1.70E+00 |

Flag: "*" = Peak area was modified by background subtraction

Nuclide Line Activity Report

Flag: "*" = Keyline

Summary of Nuclide Activity
Sample ID : 07L28851-9

Acquisition date : 13-JUN-2006 10:07:37

Total number of lines in spectrum 4

Number of unidentified lines 4

Number of lines tentatively identified by NID 0 0.00%

**** There are no nuclides meeting summary criteria ****

Flags: "K" = Keyline not found
"E" = Manually edited

"M" = Manually accepted
"A" = Nuclide specific abn. limit

Unidentified Energy Lines
Sample ID : 07L28851-9

Page : 3
Acquisition date : 13-JUN-2006 10:07:37

| It | Energy | Area | Bkgnd | FWHM | Channel | Left | Pw | Cts/Sec | %Err | %Eff | Flags |
|----|--------|------|-------|------|---------|------|----|----------|------|----------|-------|
| 1 | 66.31 | 131 | 302 | 1.43 | 133.20 | 130 | 8 | 1.10E-02 | 51.6 | 7.24E-01 | |
| 1 | 139.95 | 83 | 316 | 1.14 | 280.60 | 276 | 9 | 7.06E-03 | 84.3 | 2.09E+00 | |
| 1 | 596.12 | 60 | 101 | 2.25 | 1193.41 | 1186 | 13 | 5.09E-03 | 73.5 | 9.96E-01 | |
| 1 | 609.24 | 66 | 92 | 2.06 | 1219.66 | 1214 | 14 | 5.63E-03 | 72.5 | 9.81E-01 | |

Flags: "T" = Tentatively associated

Summary of Nuclide Activity

| | |
|--|-------|
| Total number of lines in spectrum | 4 |
| Number of unidentified lines | 4 |
| Number of lines tentatively identified by NID | 0 |
| **** There are no nuclides meeting summary criteria **** | 0.00% |

Flags: "K" = Keyline not found "M" = Manually accepted
 "E" = Manually edited "A" = Nuclide specific abn. limit

Interference Report

No interference correction performed

Combined Activity-MDA Report

---- Non-Identified Nuclides ----


| Nuclide | Key-Line Activity (pCi/L) | K.L. Ided | Act error | MDA (pCi/L) | MDA error | Act/MDA |
|---------|---------------------------------|--------------|-----------|---------------------|-----------|---------|
| BE-7 | -1.110E-01 | | 2.593E+01 | 4.220E+01 | 0.000E+00 | -0.003 |
| NA-24 | 1.926E-01 | | 9.023E-01 | Half-Life too short | | |
| K-40 | 2.806E+01 | | 3.989E+01 | 7.367E+01 | 0.000E+00 | 0.381 |
| CR-51 | -4.377E+01 | | 2.994E+01 | 4.687E+01 | 0.000E+00 | -0.934 |
| MN-54 | 9.506E-01 | | 2.722E+00 | 4.599E+00 | 0.000E+00 | 0.207 |
| CO-57 | -3.217E-01 | | 2.810E+00 | 4.576E+00 | 0.000E+00 | -0.070 |
| CO-58 | 4.459E-01 | | 2.955E+00 | 4.939E+00 | 0.000E+00 | 0.090 |
| FE-59 | -2.122E-01 | | 6.395E+00 | 1.057E+01 | 0.000E+00 | -0.020 |
| CO-60 | -5.564E-01 | | 2.895E+00 | 4.645E+00 | 0.000E+00 | -0.120 |
| ZN-65 | 9.890E-01 | | 6.000E+00 | 1.005E+01 | 0.000E+00 | 0.098 |
| SE-75 | -1.506E+00 | | 3.922E+00 | 6.309E+00 | 0.000E+00 | -0.239 |
| SR-85 | 2.114E+01 | | 3.761E+00 | 7.428E+00 | 0.000E+00 | 2.846 |
| Y-88 | -3.098E-01 | | 3.265E+00 | 5.354E+00 | 0.000E+00 | -0.058 |
| NB-94 | -1.964E+00 | | 2.820E+00 | 4.416E+00 | 0.000E+00 | -0.445 |
| NB-95 | -2.836E-01 | | 2.954E+00 | 4.880E+00 | 0.000E+00 | -0.058 |
| ZR-95 | -2.641E+00 | | 5.214E+00 | 8.167E+00 | 0.000E+00 | -0.323 |
| MO-99 | 9.528E+01 | | 4.345E+02 | 7.164E+02 | 0.000E+00 | 0.133 |
| RU-103 | 1.340E+00 | | 3.253E+00 | 5.401E+00 | 0.000E+00 | 0.248 |
| RU-106 | -1.568E+01 | | 2.662E+01 | 4.231E+01 | 0.000E+00 | -0.370 |
| AG-110m | -4.676E-01 | | 2.729E+00 | 4.427E+00 | 0.000E+00 | -0.106 |
| SN-113 | 2.083E+00 | | 3.688E+00 | 6.231E+00 | 0.000E+00 | 0.334 |
| SB-124 | 3.888E-03 | | 7.255E+00 | 5.110E+00 | 0.000E+00 | 0.001 |
| SB-125 | 1.261E+00 | | 7.251E+00 | 1.199E+01 | 0.000E+00 | 0.105 |
| TE-129M | 6.877E+00 | | 3.977E+01 | 6.546E+01 | 0.000E+00 | 0.105 |

| | | | | | |
|--------|------------|-----------|-----------|-----------|--------|
| I-131 | 1.033E-01 | 7.598E+00 | 1.257E+01 | 0.000E+00 | 0.008 |
| BA-133 | 5.067E+00 | 3.813E+00 | 6.653E+00 | 0.000E+00 | 0.762 |
| CS-134 | 4.587E+00 | 5.488E+00 | 5.262E+00 | 0.000E+00 | 0.872 |
| CS-136 | 5.845E-01 | 4.836E+00 | 8.065E+00 | 0.000E+00 | 0.072 |
| CS-137 | -5.395E-01 | 2.939E+00 | 4.761E+00 | 0.000E+00 | -0.113 |
| CE-139 | 1.250E+00 | 2.772E+00 | 4.686E+00 | 0.000E+00 | 0.267 |
| BA-140 | -3.135E+00 | 1.827E+01 | 3.005E+01 | 0.000E+00 | -0.104 |
| LA-140 | 4.915E-01 | 5.973E+00 | 9.893E+00 | 0.000E+00 | 0.050 |
| CE-141 | 6.247E+00 | 6.654E+00 | 9.589E+00 | 0.000E+00 | 0.651 |
| CE-144 | -7.835E+00 | 2.481E+01 | 3.386E+01 | 0.000E+00 | -0.231 |
| EU-152 | -1.935E+01 | 9.164E+00 | 1.393E+01 | 0.000E+00 | -1.389 |
| EU-154 | 4.425E+00 | 5.706E+00 | 9.543E+00 | 0.000E+00 | 0.464 |
| RA-226 | -6.189E+01 | 7.070E+01 | 1.147E+02 | 0.000E+00 | -0.540 |
| AC-228 | -3.950E+00 | 1.134E+01 | 1.805E+01 | 0.000E+00 | -0.219 |
| TH-228 | 2.443E+00 | 5.367E+00 | 8.995E+00 | 0.000E+00 | 0.272 |
| TH-232 | -3.934E+00 | 1.129E+01 | 1.798E+01 | 0.000E+00 | -0.219 |
| U-235 | 3.264E+01 | 2.417E+01 | 3.545E+01 | 0.000E+00 | 0.921 |
| U-238 | 1.239E+02 | 3.094E+02 | 5.195E+02 | 0.000E+00 | 0.238 |
| AM-241 | -4.077E+01 | 2.754E+01 | 3.837E+01 | 0.000E+00 | -1.063 |

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A,07L28851-9      ,06/13/2006 13:24,06/01/2006 11:20,    3.298E+00,WG L28851-9 DR
B,07L28851-9      ,LIBD      ,06/07/2006 09:32,0735L090904
C,BE-7      ,NO ,    -1.110E-01,    2.593E+01,    4.220E+01,,    -0.003
C,K-40      ,NO ,    2.806E+01,    3.989E+01,    7.367E+01,,    0.381
C,CR-51     ,NO ,   -4.377E+01,    2.994E+01,    4.687E+01,,   -0.934
C,MN-54     ,NO ,    9.506E-01,    2.722E+00,    4.599E+00,,    0.207
C,CO-57     ,NO ,   -3.217E-01,    2.810E+00,    4.576E+00,,   -0.070
C,CO-58     ,NO ,    4.459E-01,    2.955E+00,    4.939E+00,,    0.090
C,FE-59     ,NO ,   -2.122E-01,    6.395E+00,    1.057E+01,,   -0.020
C,CO-60     ,NO ,   -5.564E-01,    2.895E+00,    4.645E+00,,   -0.120
C,ZN-65     ,NO ,    9.890E-01,    6.000E+00,    1.005E+01,,    0.098
C,SE-75     ,NO ,   -1.506E+00,    3.922E+00,    6.309E+00,,   -0.239
C,SR-85     ,NO ,    2.114E+01,    3.761E+00,    7.428E+00,,    2.846
C,Y-88      ,NO ,   -3.098E-01,    3.265E+00,    5.354E+00,,   -0.058
C,NB-94     ,NO ,   -1.964E+00,    2.820E+00,    4.416E+00,,   -0.445
C,NB-95     ,NO ,   -2.836E-01,    2.954E+00,    4.880E+00,,   -0.058
C,ZR-95     ,NO ,   -2.641E+00,    5.214E+00,    8.167E+00,,   -0.323
C,MO-99     ,NO ,    9.528E+01,    4.345E+02,    7.164E+02,,    0.133
C,RU-103    ,NO ,    1.340E+00,    3.253E+00,    5.401E+00,,    0.248
C,RU-106    ,NO ,   -1.568E+01,    2.662E+01,    4.231E+01,,   -0.370
C,AG-110m   ,NO ,   -4.676E-01,    2.729E+00,    4.427E+00,,   -0.106
C,SN-113    ,NO ,    2.083E+00,    3.688E+00,    6.231E+00,,    0.334
C,SB-124    ,NO ,    3.888E-03,    7.255E+00,    5.110E+00,,    0.001
C,SB-125    ,NO ,    1.261E+00,    7.251E+00,    1.199E+01,,    0.105
C,TE-129M   ,NO ,    6.877E+00,    3.977E+01,    6.546E+01,,    0.105
C,I-131     ,NO ,    1.033E-01,    7.598E+00,    1.257E+01,,    0.008
C,BA-133    ,NO ,    5.067E+00,    3.813E+00,    6.653E+00,,    0.762
C,CS-134    ,NO ,    4.587E+00,    5.488E+00,    5.262E+00,,    0.872
C,CS-136    ,NO ,    5.845E-01,    4.836E+00,    8.065E+00,,    0.072
C,CS-137    ,NO ,   -5.395E-01,    2.939E+00,    4.761E+00,,   -0.113
C,CE-139    ,NO ,    1.250E+00,    2.772E+00,    4.686E+00,,    0.267
C,BA-140    ,NO ,   -3.135E+00,    1.827E+01,    3.005E+01,,   -0.104
C,LA-140    ,NO ,    4.915E-01,    5.973E+00,    9.893E+00,,    0.050
C,CE-141    ,NO ,    6.247E+00,    6.654E+00,    9.589E+00,,    0.651
C,CE-144    ,NO ,   -7.835E+00,    2.481E+01,    3.386E+01,,   -0.231
C,EU-152    ,NO ,   -1.935E+01,    9.164E+00,    1.393E+01,,   -1.389
C,EU-154    ,NO ,    4.425E+00,    5.706E+00,    9.543E+00,,    0.464
C,RA-226    ,NO ,   -6.189E+01,    7.070E+01,    1.147E+02,,   -0.540
C,AC-228    ,NO ,   -3.950E+00,    1.134E+01,    1.805E+01,,   -0.219
C,TH-228    ,NO ,    2.443E+00,    5.367E+00,    8.995E+00,,    0.272
C,TH-232    ,NO ,   -3.934E+00,    1.129E+01,    1.798E+01,,   -0.219
C,U-235     ,NO ,    3.264E+01,    2.417E+01,    3.545E+01,,    0.921
C,U-238     ,NO ,    1.239E+02,    3.094E+02,    5.195E+02,,    0.238
C,AM-241    ,NO ,   -4.077E+01,    2.754E+01,    3.837E+01,,   -1.063

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Sec. Review: Analyst: LIMS: 

VAX/VMS Teledyne Brown Eng. Laboratory Gamma Report: 13-JUN-2006 14:17:41.39
 TBE23 03017322 HpGe ***** Aquisition Date/Time: 13-JUN-2006 10:42:16.70

LIMS No., Customer Name, Client ID: WG L28851-10 DRESDEN

Sample ID : 23L28851-10 Smple Date: 1-JUN-2006 11:45:00.0
 Sample Type : WG Geometry : 233L082404
 Quantity : 3.21660E+00 L BKGFILE : 23BG060306MT
 Start Channel : 50 Energy Tol : 1.50000 Real Time : 0 03:35:10.56
 End Channel : 4090 Pk Srch Sens: 5.00000 Live time : 0 03:35:01.68
 MDA Constant : 0.00 Library Used: LIBD

| Pk | It | Energy | Area | Bkgnd | FWHM | Channel | %Eff | Cts/Sec | %Err | Fit |
|----|----|----------|------|-------|------|---------|----------|----------|-------|----------|
| 1 | 5 | 33.75* | 25 | 56 | 1.26 | 67.82 | 8.19E-02 | 1.95E-03 | 92.8 | 2.21E+00 |
| 2 | 0 | 92.65* | 14 | 607 | 0.86 | 185.54 | 1.94E+00 | 1.05E-03 | 371.4 | |
| 3 | 0 | 139.55* | 63 | 440 | 1.11 | 279.27 | 2.32E+00 | 4.85E-03 | 62.7 | |
| 4 | 0 | 185.60* | 8 | 350 | 0.98 | 371.31 | 2.17E+00 | 5.90E-04 | 492.7 | |
| 5 | 0 | 197.90* | 97 | 350 | 1.62 | 395.90 | 2.11E+00 | 7.52E-03 | 38.2 | |
| 6 | 0 | 238.12* | 24 | 311 | 0.95 | 476.28 | 1.90E+00 | 1.85E-03 | 147.3 | |
| 7 | 0 | 582.61* | 32 | 68 | 1.64 | 1164.92 | 9.72E-01 | 2.47E-03 | 57.1 | |
| 8 | 0 | 608.79* | 26 | 96 | 1.38 | 1217.26 | 9.41E-01 | 2.05E-03 | 87.4 | |
| 9 | 0 | 910.65* | 43 | 34 | 2.80 | 1820.83 | 7.09E-01 | 3.31E-03 | 37.6 | |
| 10 | 0 | 1460.72* | 15 | 39 | 2.26 | 2921.07 | 5.10E-01 | 1.19E-03 | 139.6 | |
| 11 | 0 | 1765.08* | 9 | 14 | 1.46 | 3530.05 | 4.38E-01 | 6.76E-04 | 124.4 | |

Flag: "*" = Peak area was modified by background subtraction

Nuclide Line Activity Report

Nuclide Type: natural

| Nuclide | Energy | Area | %Abn | %Eff | Uncorrected pCi/L | Decay Corr pCi/L | 2-Sigma %Error |
|---------|---------|-------|--------|-----------|----------------------|---------------------|-------------------|
| K-40 | 1460.81 | 15 | 10.67* | 5.096E-01 | 1.836E+01 | 1.836E+01 | 279.14 |
| RA-226 | 186.21 | 8 | 3.28* | 2.175E+00 | 6.950E+00 | 6.950E+00 | 985.35 |
| AC-228 | 835.50 | ----- | 1.75 | 7.515E-01 | ----- | Line Not Found | ----- |
| | 911.07 | 43 | 27.70* | 7.086E-01 | 1.415E+01 | 1.421E+01 | 75.15 |
| TH-228 | 238.63 | 24 | 44.60* | 1.903E+00 | 1.836E+00 | 1.858E+00 | 294.68 |
| | 240.98 | ----- | 3.95 | 1.888E+00 | ----- | Line Not Found | ----- |
| TH-232 | 583.14 | 32 | 30.25 | 9.720E-01 | 7.054E+00 | 7.054E+00 | 114.19 |
| | 911.07 | 43 | 27.70* | 7.086E-01 | 1.415E+01 | 1.415E+01 | 75.15 |
| | 969.11 | ----- | 16.60 | 6.793E-01 | ----- | Line Not Found | ----- |

Flag: "*" = Keyline

Summary of Nuclide Activity
 Sample ID : 23L28851-10

Page : 2
 Acquisition date : 13-JUN-2006 10:42:16

| | | |
|---|----|--------|
| Total number of lines in spectrum | 11 | |
| Number of unidentified lines | 6 | |
| Number of lines tentatively identified by NID | 5 | 45.45% |

Nuclide Type : natural

| Nuclide | Hlife | Decay | Uncorrected pCi/L | Decay Corr pCi/L | Decay Corr 2-Sigma Error | 2-Sigma %Error | Flags |
|------------------|-----------|-------|----------------------|---------------------|-----------------------------|-------------------|-------|
| K-40 | 1.28E+09Y | 1.00 | 1.836E+01 | 1.836E+01 | 5.124E+01 | 279.14 | |
| RA-226 | 1600.00Y | 1.00 | 6.950E+00 | 6.950E+00 | 68.48E+00 | 985.35 | |
| AC-228 | 5.75Y | 1.00 | 1.415E+01 | 1.421E+01 | 1.068E+01 | 75.15 | |
| TH-228 | 1.91Y | 1.01 | 1.836E+00 | 1.858E+00 | 5.475E+00 | 294.68 | |
| TH-232 | 1.41E+10Y | 1.00 | 1.415E+01 | 1.415E+01 | 1.064E+01 | 75.15 | |
| Total Activity : | | | 5.545E+01 | 5.552E+01 | | | |

Grand Total Activity : 5.545E+01 5.552E+01

Flags: "K" = Keyline not found
 "E" = Manually edited

"M" = Manually accepted
 "A" = Nuclide specific abn. limit

Unidentified Energy Lines
Sample ID : 23L28851-10

Page : 3
Acquisition date : 13-JUN-2006 10:42:16

| It | Energy | Area | Bkgnd | FWHM | Channel | Left | Pw | Cts/Sec | %Err | %Eff | Flags |
|----|---------|------|-------|------|---------|------|----|----------|------|----------|-------|
| 5 | 33.75 | 25 | 56 | 1.26 | 67.82 | 64 | 14 | 1.95E-03 | **** | 8.19E-02 | |
| 0 | 92.65 | 14 | 607 | 0.86 | 185.54 | 181 | 10 | 1.05E-03 | **** | 1.94E+00 | |
| 0 | 139.55 | 63 | 440 | 1.11 | 279.27 | 276 | 8 | 4.85E-03 | **** | 2.32E+00 | |
| 0 | 197.90 | 97 | 350 | 1.62 | 395.90 | 392 | 9 | 7.52E-03 | 76.3 | 2.11E+00 | |
| 0 | 608.79 | 26 | 96 | 1.38 | 1217.26 | 1211 | 12 | 2.05E-03 | **** | 9.41E-01 | |
| 0 | 1765.08 | 9 | 14 | 1.46 | 3530.05 | 3524 | 14 | 6.76E-04 | **** | 4.38E-01 | |

Flags: "T" = Tentatively associated

Summary of Nuclide Activity

| | | |
|---|----|--------|
| Total number of lines in spectrum | 11 | |
| Number of unidentified lines | 6 | |
| Number of lines tentatively identified by NID | 5 | 45.45% |

Nuclide Type : natural

| Nuclide | Hlife | Decay | Wtd Mean | Wtd Mean | Decay Corr | 2-Sigma | Error | %Error | Flags |
|------------------|-----------|-------|-------------|------------|------------|---------|-------|--------|-------|
| | | | Uncorrected | Decay Corr | | | | | |
| | | | pCi/L | pCi/L | | | | | |
| K-40 | 1.28E+09Y | 1.00 | 1.836E+01 | 1.836E+01 | 5.124E+01 | 279.14 | | | |
| RA-226 | 1600.00Y | 1.00 | 6.950E+00 | 6.950E+00 | 68.48E+00 | 985.35 | | | |
| AC-228 | 5.75Y | 1.00 | 7.098E+00 | 7.127E+00 | 13.39E+00 | 187.94 | | | |
| TH-228 | 1.91Y | 1.01 | 1.836E+00 | 1.858E+00 | 5.475E+00 | 294.68 | | | |
| TH-232 | 1.41E+10Y | 1.00 | 7.054E+00 | 7.054E+00 | 8.054E+00 | 114.19 | | | |
| Total Activity : | | | 4.129E+01 | 4.134E+01 | | | | | |

Grand Total Activity : 4.129E+01 4.134E+01

Flags: "K" = Keyline not found "M" = Manually accepted
"E" = Manually edited "A" = Nuclide specific abn. limit

Interference Report

| Interfering | | Interfered | |
|-------------|--------|------------|--------|
| Nuclide | Line | Nuclide | Line |
| TH-232 | 911.07 | AC-228 | 911.07 |

Combined Activity-MDA Report

---- Identified Nuclides ----

| Nuclide | Activity (pCi/L) | Act error | MDA (pCi/L) | MDA error | Act/MDA |
|---------|---------------------|-----------|----------------|-----------|---------|
| K-40 | 1.836E+01 | 5.124E+01 | 4.660E+01 | 0.000E+00 | 0.394 |
| RA-226 | 6.950E+00 | 6.848E+01 | 1.163E+02 | 0.000E+00 | 0.060 |
| AC-228 | 7.127E+00 | 1.339E+01 | 1.723E+01 | 0.000E+00 | 0.414 |
| TH-228 | 1.858E+00 | 5.475E+00 | 8.696E+00 | 0.000E+00 | 0.214 |
| TH-232 | 7.054E+00 | 8.054E+00 | 1.710E+01 | 0.000E+00 | 0.412 |


---- Non-Identified Nuclides ----

| Nuclide | Key-Line Activity (pCi/L) | K.L. Ided | Act error | MDA (pCi/L) | MDA error | Act/MDA |
|---------|---------------------------------|--------------|-----------|---------------------|-----------|---------|
| BE-7 | 3.804E+00 | | 2.660E+01 | 4.551E+01 | 0.000E+00 | 0.084 |
| NA-24 | -3.247E-01 | | 8.590E-01 | Half-Life too short | | |
| CR-51 | -5.612E+01 | | 3.194E+01 | 5.109E+01 | 0.000E+00 | -1.098 |
| MN-54 | 1.347E+00 | | 2.741E+00 | 4.875E+00 | 0.000E+00 | 0.276 |
| CO-57 | -4.173E+00 | | 2.984E+00 | 4.861E+00 | 0.000E+00 | -0.858 |
| CO-58 | 1.180E+00 | | 2.943E+00 | 5.215E+00 | 0.000E+00 | 0.226 |
| FE-59 | -1.519E+00 | | 5.855E+00 | 1.011E+01 | 0.000E+00 | -0.150 |
| CO-60 | 8.007E-01 | | 2.694E+00 | 4.860E+00 | 0.000E+00 | 0.165 |
| ZN-65 | 3.315E+00 | | 5.867E+00 | 1.068E+01 | 0.000E+00 | 0.310 |
| SE-75 | -2.789E+00 | | 4.032E+00 | 6.750E+00 | 0.000E+00 | -0.413 |
| SR-85 | 1.427E+01 | | 3.648E+00 | 6.991E+00 | 0.000E+00 | 2.041 |
| Y-88 | -4.255E+00 | | 2.831E+00 | 4.206E+00 | 0.000E+00 | -1.012 |
| NB-94 | 2.479E+00 | | 2.504E+00 | 4.583E+00 | 0.000E+00 | 0.541 |
| NB-95 | 2.498E+00 | | 2.978E+00 | 5.402E+00 | 0.000E+00 | 0.462 |
| ZR-95 | -3.778E+00 | | 5.325E+00 | 8.819E+00 | 0.000E+00 | -0.428 |
| MO-99 | -1.197E+02 | | 3.769E+02 | 6.424E+02 | 0.000E+00 | -0.186 |
| RU-103 | -1.254E+00 | | 3.453E+00 | 5.754E+00 | 0.000E+00 | -0.218 |
| RU-106 | 8.419E+00 | | 2.591E+01 | 4.575E+01 | 0.000E+00 | 0.184 |
| AG-110m | 1.584E+00 | | 2.615E+00 | 4.700E+00 | 0.000E+00 | 0.337 |
| SN-113 | 3.724E-01 | | 3.715E+00 | 6.361E+00 | 0.000E+00 | 0.059 |
| SB-124 | -8.843E+00 | | 3.907E+00 | 4.725E+00 | 0.000E+00 | -1.872 |
| SB-125 | 4.827E+00 | | 8.109E+00 | 1.414E+01 | 0.000E+00 | 0.341 |
| TE-129M | -4.242E+01 | | 3.835E+01 | 6.171E+01 | 0.000E+00 | -0.687 |
| I-131 | 2.609E+00 | | 7.601E+00 | 1.315E+01 | 0.000E+00 | 0.198 |
| BA-133 | -5.762E-01 | | 3.897E+00 | 6.602E+00 | 0.000E+00 | -0.087 |
| CS-134 | -1.661E+00 | | 3.638E+00 | 5.140E+00 | 0.000E+00 | -0.323 |
| CS-136 | -3.413E-01 | | 4.865E+00 | 8.380E+00 | 0.000E+00 | -0.041 |
| CS-137 | 3.015E+00 | | 2.964E+00 | 5.416E+00 | 0.000E+00 | 0.557 |
| CE-139 | -1.440E+00 | | 3.100E+00 | 5.126E+00 | 0.000E+00 | -0.281 |
| BA-140 | 1.075E+01 | | 1.825E+01 | 3.194E+01 | 0.000E+00 | 0.336 |
| LA-140 | 2.495E+00 | | 5.167E+00 | 9.738E+00 | 0.000E+00 | 0.256 |
| CE-141 | -3.592E+00 | | 7.670E+00 | 1.073E+01 | 0.000E+00 | -0.335 |
| CE-144 | -7.617E+00 | | 2.783E+01 | 3.930E+01 | 0.000E+00 | -0.194 |
| EU-152 | -1.368E+01 | | 9.269E+00 | 1.495E+01 | 0.000E+00 | -0.915 |
| EU-154 | -6.786E+00 | | 6.106E+00 | 1.001E+01 | 0.000E+00 | -0.678 |
| U-235 | -8.937E-01 | | 2.787E+01 | 3.902E+01 | 0.000E+00 | -0.023 |
| U-238 | -1.036E+02 | | 2.876E+02 | 4.741E+02 | 0.000E+00 | -0.218 |
| AM-241 | -7.161E+00 | | 1.707E+01 | 2.788E+01 | 0.000E+00 | -0.257 |

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A,23L28851-10      ,06/13/2006 14:17,06/01/2006 11:45,    3.217E+00,WG L28851-10 D
B,23L28851-10      ,LIBD      ,06/01/2006 10:14,233L082404
C,K-40      ,YES,    1.836E+01,    5.124E+01,    4.660E+01,,    0.394
C,RA-226    ,YES,    6.950E+00,    6.848E+01,    1.163E+02,,    0.060
C,AC-228    ,YES,    7.127E+00,    1.339E+01,    1.723E+01,,    0.414
C,TH-228    ,YES,    1.858E+00,    5.475E+00,    8.696E+00,,    0.214
C,TH-232    ,YES,    7.054E+00,    8.054E+00,    1.710E+01,,    0.412
C,BE-7      ,NO ,    3.804E+00,    2.660E+01,    4.551E+01,,    0.084
C,CR-51     ,NO ,   -5.612E+01,    3.194E+01,    5.109E+01,,   -1.098
C,MN-54     ,NO ,    1.347E+00,    2.741E+00,    4.875E+00,,    0.276
C,CO-57     ,NO ,   -4.173E+00,    2.984E+00,    4.861E+00,,   -0.858
C,CO-58     ,NO ,    1.180E+00,    2.943E+00,    5.215E+00,,    0.226
C,FE-59     ,NO ,   -1.519E+00,    5.855E+00,    1.011E+01,,   -0.150
C,CO-60     ,NO ,    8.007E-01,    2.694E+00,    4.860E+00,,    0.165
C,ZN-65     ,NO ,    3.315E+00,    5.867E+00,    1.068E+01,,    0.310
C,SE-75     ,NO ,   -2.789E+00,    4.032E+00,    6.750E+00,,   -0.413
C,SR-85     ,NO ,    1.427E+01,    3.648E+00,    6.991E+00,,    2.041
C,Y-88      ,NO ,   -4.255E+00,    2.831E+00,    4.206E+00,,   -1.012
C,NB-94     ,NO ,    2.479E+00,    2.504E+00,    4.583E+00,,    0.541
C,NB-95     ,NO ,    2.498E+00,    2.978E+00,    5.402E+00,,    0.462
C,ZR-95     ,NO ,   -3.778E+00,    5.325E+00,    8.819E+00,,   -0.428
C,MO-99     ,NO ,   -1.197E+02,    3.769E+02,    6.424E+02,,   -0.186
C,RU-103    ,NO ,   -1.254E+00,    3.453E+00,    5.754E+00,,   -0.218
C,RU-106    ,NO ,    8.419E+00,    2.591E+01,    4.575E+01,,    0.184
C,AG-110m   ,NO ,    1.584E+00,    2.615E+00,    4.700E+00,,    0.337
C,SN-113    ,NO ,    3.724E-01,    3.715E+00,    6.361E+00,,    0.059
C,SB-124    ,NO ,   -8.843E+00,    3.907E+00,    4.725E+00,,   -1.872
C,SB-125    ,NO ,    4.827E+00,    8.109E+00,    1.414E+01,,    0.341
C,TE-129M   ,NO ,   -4.242E+01,    3.835E+01,    6.171E+01,,   -0.687
C,I-131     ,NO ,    2.609E+00,    7.601E+00,    1.315E+01,,    0.198
C,BA-133    ,NO ,   -5.762E-01,    3.897E+00,    6.602E+00,,   -0.087
C,CS-134    ,NO ,   -1.661E+00,    3.638E+00,    5.140E+00,,   -0.323
C,CS-136    ,NO ,   -3.413E-01,    4.865E+00,    8.380E+00,,   -0.041
C,CS-137    ,NO ,    3.015E+00,    2.964E+00,    5.416E+00,,    0.557
C,CE-139    ,NO ,   -1.440E+00,    3.100E+00,    5.126E+00,,   -0.281
C,BA-140    ,NO ,    1.075E+01,    1.825E+01,    3.194E+01,,    0.336
C,LA-140    ,NO ,    2.495E+00,    5.167E+00,    9.738E+00,,    0.256
C,CE-141    ,NO ,   -3.592E+00,    7.670E+00,    1.073E+01,,   -0.335
C,CE-144    ,NO ,   -7.617E+00,    2.783E+01,    3.930E+01,,   -0.194
C,EU-152    ,NO ,   -1.368E+01,    9.269E+00,    1.495E+01,,   -0.915
C,EU-154    ,NO ,   -6.786E+00,    6.106E+00,    1.001E+01,,   -0.678
C,U-235     ,NO ,   -8.937E-01,    2.787E+01,    3.902E+01,,   -0.023
C,U-238     ,NO ,   -1.036E+02,    2.876E+02,    4.741E+02,,   -0.218
C,AM-241    ,NO ,   -7.161E+00,    1.707E+01,    2.788E+01,,   -0.257

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Sec. Review: Analyst: LIMS: 

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VAX/VMS Teledyne Brown Eng. Laboratory Gamma Report: 13-JUN-2006 15:58:41.27

TBE13 P-10727B HpGe ***** Aquisition Date/Time: 13-JUN-2006 13:22:29.95

LIMS No., Customer Name, Client ID: WG L28851-11 DRESDEN

| | | | |
|---------------|-----------------|---------------|-----------------------|
| Sample ID | : 13L28851-11 | Smple Date: | 30-MAY-2006 14:10:00. |
| Sample Type | : WG | Geometry | : 133L082404 |
| Quantity | : 3.25340E+00 L | BKGFILE | : 13BG060306MT |
| Start Channel | : 25 | Energy Tol | : 1.50000 |
| End Channel | : 4090 | Real Time | : 0 02:36:04.05 |
| MDA Constant | : 0.00 | Pk Srch Sens: | 5.00000 |
| | | Live time | : 0 02:36:01.39 |
| | | Library Used: | LIBD |

| Pk | It | Energy | Area | Bkgnd | FWHM | Channel | %Eff | Cts/Sec | %Err | Fit |
|----|----|----------|------|-------|------|---------|----------|----------|-------|----------|
| 1 | 1 | 92.79* | 16 | 332 | 1.04 | 185.54 | 1.74E+00 | 1.70E-03 | 235.5 | 1.49E+00 |
| 2 | 1 | 140.06* | 59 | 264 | 1.69 | 280.09 | 2.27E+00 | 6.31E-03 | 52.1 | 8.92E-01 |
| 3 | 1 | 185.58* | 10 | 231 | 1.33 | 371.14 | 2.18E+00 | 1.11E-03 | 293.7 | 1.81E+00 |
| 4 | 1 | 198.73* | 68 | 315 | 1.74 | 397.44 | 2.12E+00 | 7.29E-03 | 53.7 | 1.91E+00 |
| 5 | 1 | 238.32* | 16 | 225 | 1.10 | 476.62 | 1.94E+00 | 1.66E-03 | 199.2 | 1.70E+00 |
| 6 | 1 | 351.76* | 36 | 81 | 1.10 | 703.53 | 1.51E+00 | 3.86E-03 | 52.1 | 8.30E-01 |
| 7 | 1 | 595.74 | 46 | 94 | 1.53 | 1191.62 | 1.02E+00 | 4.94E-03 | 43.0 | 2.49E+00 |
| 8 | 1 | 609.18* | 35 | 80 | 1.51 | 1218.52 | 1.01E+00 | 3.72E-03 | 59.0 | 1.13E+00 |
| 9 | 1 | 1238.67* | 8 | 27 | 2.17 | 2478.24 | 5.80E-01 | 8.90E-04 | 138.7 | 1.45E+00 |
| 10 | 1 | 1461.10* | 13 | 11 | 2.92 | 2923.50 | 5.14E-01 | 1.40E-03 | 105.0 | 1.43E+00 |
| 11 | 1 | 1764.66* | 13 | 14 | 4.03 | 3531.27 | 4.55E-01 | 1.34E-03 | 80.2 | 1.38E+00 |

Flag: "*" = Peak area was modified by background subtraction

Nuclide Line Activity Report

Nuclide Type: natural

| Nuclide | Energy | Area | %Abn | %Eff | Uncorrected pCi/L | Decay Corr pCi/L | 2-Sigma %Error |
|---------|---------|-------|--------|-----------|----------------------|---------------------|-------------------|
| K-40 | 1460.81 | 13 | 10.67* | 5.143E-01 | 2.112E+01 | 2.112E+01 | 209.92 |
| RA-226 | 186.21 | 10 | 3.28* | 2.180E+00 | 1.285E+01 | 1.285E+01 | 587.38 |
| TH-228 | 238.63 | 16 | 44.60* | 1.939E+00 | 1.592E+00 | 1.614E+00 | 398.44 |
| | 240.98 | ----- | 3.95 | 1.927E+00 | ----- | Line Not Found | ----- |
| U-235 | 143.76 | ----- | 10.50* | 2.278E+00 | ----- | Line Not Found | ----- |
| | 163.35 | ----- | 4.70 | 2.256E+00 | ----- | Line Not Found | ----- |
| | 185.71 | 10 | 54.00 | 2.180E+00 | 7.805E-01 | 7.805E-01 | 587.38 |
| | 205.31 | ----- | 4.70 | 2.093E+00 | ----- | Line Not Found | ----- |

Flag: "*" = Keyline

Summary of Nuclide Activity
 Sample ID : 13L28851-11

Page : 2
 Acquisition date : 13-JUN-2006 13:22:29

Total number of lines in spectrum 11
 Number of unidentified lines 8
 Number of lines tentatively identified by NID 3 27.27%

Nuclide Type : natural

| Nuclide | Hlife | Decay | Uncorrected pCi/L | Decay Corr pCi/L | Decay Corr 2-Sigma Error | 2-Sigma %Error | Flags |
|------------------|-----------|-------|----------------------|---------------------|-----------------------------|-------------------|-------|
| K-40 | 1.28E+09Y | 1.00 | 2.112E+01 | 2.112E+01 | 4.433E+01 | 209.92 | |
| RA-226 | 1600.00Y | 1.00 | 1.285E+01 | 1.285E+01 | 7.547E+01 | 587.38 | |
| TH-228 | 1.91Y | 1.01 | 1.592E+00 | 1.614E+00 | 6.431E+00 | 398.44 | |
| U-235 | 7.04E+08Y | 1.00 | 7.805E-01 | 7.805E-01 | 45.84E-01 | 587.38 | K |
| Total Activity : | | | 3.634E+01 | 3.636E+01 | | | |

Grand Total Activity : 3.634E+01 3.636E+01

Flags: "K" = Keyline not found
 "E" = Manually edited

"M" = Manually accepted
 "A" = Nuclide specific abn. limit

Unidentified Energy Lines
Sample ID : 13L28851-11

Acquisition date : 13-JUN-2006 13:22:29

| It | Energy | Area | Bkgnd | FWHM | Channel | Left | Pw | Cts/Sec | %Err | %Eff | Flags |
|----|---------|------|-------|------|---------|------|----|----------|------|----------|-------|
| 1 | 92.79 | 16 | 332 | 1.04 | 185.54 | 181 | 9 | 1.70E-03 | **** | 1.74E+00 | |
| 1 | 140.06 | 59 | 264 | 1.69 | 280.09 | 276 | 8 | 6.31E-03 | **** | 2.27E+00 | |
| 1 | 198.73 | 68 | 315 | 1.74 | 397.44 | 392 | 11 | 7.29E-03 | **** | 2.12E+00 | |
| 1 | 351.76 | 36 | 81 | 1.10 | 703.53 | 700 | 7 | 3.86E-03 | **** | 1.51E+00 | |
| 1 | 595.74 | 46 | 94 | 1.53 | 1191.62 | 1186 | 11 | 4.94E-03 | 86.0 | 1.02E+00 | |
| 1 | 609.18 | 35 | 80 | 1.51 | 1218.52 | 1213 | 11 | 3.72E-03 | **** | 1.01E+00 | |
| 1 | 1238.67 | 8 | 27 | 2.17 | 2478.24 | 2471 | 12 | 8.90E-04 | **** | 5.80E-01 | |
| 1 | 1764.66 | 13 | 14 | 4.03 | 3531.27 | 3525 | 14 | 1.34E-03 | **** | 4.55E-01 | |

Flags: "T" = Tentatively associated

Summary of Nuclide Activity

| | | |
|---|----|--------|
| Total number of lines in spectrum | 11 | |
| Number of unidentified lines | 8 | |
| Number of lines tentatively identified by NID | 3 | 27.27% |

Nuclide Type : natural

| Nuclide | Hlife | Decay | Wtd Mean Uncorrected pCi/L | Wtd Mean Decay Corr pCi/L | Decay Corr 2-Sigma Error | 2-Sigma %Error | Flags |
|------------------|-----------|-------|----------------------------------|---------------------------------|-----------------------------|-------------------|-------|
| K-40 | 1.28E+09Y | 1.00 | 2.112E+01 | 2.112E+01 | 4.433E+01 | 209.92 | |
| RA-226 | 1600.00Y | 1.00 | 1.285E+01 | 1.285E+01 | 7.547E+01 | 587.38 | |
| TH-228 | 1.91Y | 1.01 | 1.592E+00 | 1.614E+00 | 6.431E+00 | 398.44 | |
| Total Activity : | | | 3.556E+01 | 3.558E+01 | | | |

Grand Total Activity : 3.556E+01 3.558E+01

Flags: "K" = Keyline not found "M" = Manually accepted
"E" = Manually edited "A" = Nuclide specific abn. limit

Interference Report

No interference correction performed

Combined Activity-MDA Report

---- Identified Nuclides ----

| Nuclide | Activity (pCi/L) | Act error | MDA (pCi/L) | MDA error | Act/MDA |
|---------|---------------------|-----------|----------------|-----------|---------|
| K-40 | 2.112E+01 | 4.433E+01 | 4.205E+01 | 0.000E+00 | 0.502 |
| RA-226 | 1.285E+01 | 7.547E+01 | 1.155E+02 | 0.000E+00 | 0.111 |
| TH-228 | 1.614E+00 | 6.431E+00 | 8.290E+00 | 0.000E+00 | 0.195 |

---- Non-Identified Nuclides ----

| Nuclide | Key-Line Activity (pCi/L) | K.L. Ided | Act error | MDA (pCi/L) | MDA error | Act/MDA |
|---------|---------------------------------|--------------|-----------|----------------|-----------|---------|
|---------|---------------------------------|--------------|-----------|----------------|-----------|---------|

| | | | | | |
|---------|------------|-----------|---------------------|-----------|--------|
| BE-7 | -1.019E+01 | 2.842E+01 | 4.500E+01 | 0.000E+00 | -0.226 |
| NA-24 | -6.049E+00 | 9.912E+00 | Half-Life too short | | |
| CR-51 | -1.161E+01 | 3.481E+01 | 5.712E+01 | 0.000E+00 | -0.203 |
| MN-54 | 1.669E+00 | 3.128E+00 | 5.339E+00 | 0.000E+00 | 0.313 |
| CO-57 | 6.124E-01 | 2.835E+00 | 4.681E+00 | 0.000E+00 | 0.131 |
| CO-58 | -2.066E+00 | 3.427E+00 | 5.385E+00 | 0.000E+00 | -0.384 |
| FE-59 | 8.709E+00 | 6.844E+00 | 1.247E+01 | 0.000E+00 | 0.698 |
| CO-60 | 7.048E-01 | 3.323E+00 | 5.605E+00 | 0.000E+00 | 0.126 |
| ZN-65 | 5.197E+00 | 6.715E+00 | 1.175E+01 | 0.000E+00 | 0.442 |
| SE-75 | 6.599E-01 | 4.576E+00 | 7.504E+00 | 0.000E+00 | 0.088 |
| SR-85 | 1.797E+01 | 4.144E+00 | 8.038E+00 | 0.000E+00 | 2.236 |
| Y-88 | -1.459E+00 | 3.797E+00 | 5.940E+00 | 0.000E+00 | -0.246 |
| NB-94 | -2.032E+00 | 2.874E+00 | 4.559E+00 | 0.000E+00 | -0.446 |
| NB-95 | 2.055E+00 | 3.604E+00 | 6.183E+00 | 0.000E+00 | 0.332 |
| ZR-95 | -2.845E+00 | 6.059E+00 | 9.692E+00 | 0.000E+00 | -0.294 |
| MO-99 | 1.002E+03 | 8.551E+02 | 1.517E+03 | 0.000E+00 | 0.661 |
| RU-103 | 1.589E+00 | 3.948E+00 | 6.707E+00 | 0.000E+00 | 0.237 |
| RU-106 | -1.953E+01 | 3.091E+01 | 4.857E+01 | 0.000E+00 | -0.402 |
| AG-110m | -1.582E+00 | 3.084E+00 | 4.845E+00 | 0.000E+00 | -0.326 |
| SN-113 | -1.797E+00 | 4.187E+00 | 6.728E+00 | 0.000E+00 | -0.267 |
| SB-124 | -4.464E+00 | 9.749E+00 | 6.470E+00 | 0.000E+00 | -0.690 |
| SB-125 | 4.165E+00 | 8.788E+00 | 1.472E+01 | 0.000E+00 | 0.283 |
| TE-129M | 1.640E+01 | 4.591E+01 | 7.608E+01 | 0.000E+00 | 0.216 |
| I-131 | -1.742E+00 | 1.024E+01 | 1.678E+01 | 0.000E+00 | -0.104 |
| BA-133 | -3.410E-01 | 4.876E+00 | 6.819E+00 | 0.000E+00 | -0.050 |
| CS-134 | 1.859E+00 | 6.048E+00 | 6.219E+00 | 0.000E+00 | 0.299 |
| CS-136 | 9.534E-01 | 5.841E+00 | 9.733E+00 | 0.000E+00 | 0.098 |
| CS-137 | 1.314E+00 | 3.250E+00 | 5.334E+00 | 0.000E+00 | 0.246 |
| CE-139 | 8.146E-01 | 3.084E+00 | 5.020E+00 | 0.000E+00 | 0.162 |
| BA-140 | 5.581E+00 | 2.213E+01 | 3.718E+01 | 0.000E+00 | 0.150 |
| LA-140 | 4.727E+00 | 7.881E+00 | 1.363E+01 | 0.000E+00 | 0.347 |
| CE-141 | 2.564E+00 | 7.733E+00 | 1.092E+01 | 0.000E+00 | 0.235 |
| CE-144 | -1.036E+01 | 2.529E+01 | 3.614E+01 | 0.000E+00 | -0.287 |
| EU-152 | -1.527E+01 | 1.119E+01 | 1.546E+01 | 0.000E+00 | -0.988 |
| EU-154 | 1.187E-01 | 5.833E+00 | 9.562E+00 | 0.000E+00 | 0.012 |
| AC-228 | 8.568E+00 | 1.275E+01 | 2.167E+01 | 0.000E+00 | 0.395 |
| TH-232 | 8.528E+00 | 1.269E+01 | 2.157E+01 | 0.000E+00 | 0.395 |
| U-235 | -4.472E+00 | 2.680E+01 | 3.692E+01 | 0.000E+00 | -0.121 |
| U-238 | -1.708E+02 | 3.521E+02 | 5.492E+02 | 0.000E+00 | -0.311 |
| AM-241 | -3.438E+01 | 2.650E+01 | 4.082E+01 | 0.000E+00 | -0.842 |

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A,13L28851-11      ,06/13/2006 15:58,05/30/2006 14:10,    3.253E+00,WG L28851-11 D
B,13L28851-11      ,LIBD      ,06/13/2006 09:43,133L082404
C,K-40      ,YES,    2.112E+01,    4.433E+01,    4.205E+01,,    0.502
C,RA-226    ,YES,    1.285E+01,    7.547E+01,    1.155E+02,,    0.111
C,TH-228    ,YES,    1.614E+00,    6.431E+00,    8.290E+00,,    0.195
C,BE-7      ,NO ,    -1.019E+01,    2.842E+01,    4.500E+01,,   -0.226
C,CR-51     ,NO ,    -1.161E+01,    3.481E+01,    5.712E+01,,   -0.203
C,MN-54     ,NO ,    1.669E+00,    3.128E+00,    5.339E+00,,    0.313
C,CO-57     ,NO ,    6.124E-01,    2.835E+00,    4.681E+00,,    0.131
C,CO-58     ,NO ,    -2.066E+00,    3.427E+00,    5.385E+00,,   -0.384
C,FE-59     ,NO ,    8.709E+00,    6.844E+00,    1.247E+01,,    0.698
C,CO-60     ,NO ,    7.048E-01,    3.323E+00,    5.605E+00,,    0.126
C,ZN-65     ,NO ,    5.197E+00,    6.715E+00,    1.175E+01,,    0.442
C,SE-75     ,NO ,    6.599E-01,    4.576E+00,    7.504E+00,,    0.088
C,SR-85     ,NO ,    1.797E+01,    4.144E+00,    8.038E+00,,    2.236
C,Y-88      ,NO ,    -1.459E+00,    3.797E+00,    5.940E+00,,   -0.246
C,NB-94     ,NO ,    -2.032E+00,    2.874E+00,    4.559E+00,,   -0.446
C,NB-95     ,NO ,    2.055E+00,    3.604E+00,    6.183E+00,,    0.332
C,ZR-95     ,NO ,    -2.845E+00,    6.059E+00,    9.692E+00,,   -0.294
C,MO-99     ,NO ,    1.002E+03,    8.551E+02,    1.517E+03,,    0.661
C,RU-103    ,NO ,    1.589E+00,    3.948E+00,    6.707E+00,,    0.237
C,RU-106    ,NO ,    -1.953E+01,    3.091E+01,    4.857E+01,,   -0.402
C,AG-110m   ,NO ,    -1.582E+00,    3.084E+00,    4.845E+00,,   -0.326
C,SN-113    ,NO ,    -1.797E+00,    4.187E+00,    6.728E+00,,   -0.267
C,SB-124    ,NO ,    -4.464E+00,    9.749E+00,    6.470E+00,,   -0.690
C,SB-125    ,NO ,    4.165E+00,    8.788E+00,    1.472E+01,,    0.283
C,TE-129M   ,NO ,    1.640E+01,    4.591E+01,    7.608E+01,,    0.216
C,I-131     ,NO ,    -1.742E+00,    1.024E+01,    1.678E+01,,   -0.104
C,BA-133    ,NO ,    -3.410E-01,    4.876E+00,    6.819E+00,,   -0.050
C,CS-134    ,NO ,    1.859E+00,    6.048E+00,    6.219E+00,,    0.299
C,CS-136    ,NO ,    9.534E-01,    5.841E+00,    9.733E+00,,    0.098
C,CS-137    ,NO ,    1.314E+00,    3.250E+00,    5.334E+00,,    0.246
C,CE-139    ,NO ,    8.146E-01,    3.084E+00,    5.020E+00,,    0.162
C,BA-140    ,NO ,    5.581E+00,    2.213E+01,    3.718E+01,,    0.150
C,LA-140    ,NO ,    4.727E+00,    7.881E+00,    1.363E+01,,    0.347
C,CE-141    ,NO ,    2.564E+00,    7.733E+00,    1.092E+01,,    0.235
C,CE-144    ,NO ,    -1.036E+01,    2.529E+01,    3.614E+01,,   -0.287
C,EU-152    ,NO ,    -1.527E+01,    1.119E+01,    1.546E+01,,   -0.988
C,EU-154    ,NO ,    1.187E-01,    5.833E+00,    9.562E+00,,    0.012
C,AC-228    ,NO ,    8.568E+00,    1.275E+01,    2.167E+01,,    0.395
C,TH-232    ,NO ,    8.528E+00,    1.269E+01,    2.157E+01,,    0.395
C,U-235     ,NO ,    -4.472E+00,    2.680E+01,    3.692E+01,,   -0.121
C,U-238     ,NO ,    -1.708E+02,    3.521E+02,    5.492E+02,,   -0.311
C,AM-241    ,NO ,    -3.438E+01,    2.650E+01,    4.082E+01,,   -0.842

```


Sec. Review: Analyst: RL LIMS: ✓

VAX/VMS Teledyne Brown Eng. Laboratory Gamma Report: 13-JUN-2006 16:29:54.41
TBE04 P-40312B HpGe ***** Aquisition Date/Time: 13-JUN-2006 13:29:48.93

LIMS No., Customer Name, Client ID: WG L28851-12 DRESDEN

Sample ID : 04L28851-12 Smple Date: 30-MAY-2006 15:15:00.
Sample Type : WG Geometry : 043L082004
Quantity : 3.07470E+00 L BKGFILE : 04BG060306MT
Start Channel : 90 Energy Tol : 1.00000 Real Time : 0 03:00:01.81
End Channel : 4090 Pk Srch Sens: 5.00000 Live time : 0 03:00:00.00
MDA Constant : 0.00 Library Used: LIBD

| Pk | It | Energy | Area | Bkgnd | FWHM | Channel | %Eff | Cts/Sec | %Err | Fit |
|----|----|---------|------|-------|------|---------|----------|----------|------|----------|
| 1 | 1 | 66.37* | 71 | 274 | 1.50 | 133.39 | 6.65E-01 | 6.58E-03 | 43.4 | 1.49E+00 |
| 2 | 1 | 139.77 | 75 | 255 | 1.28 | 280.12 | 2.04E+00 | 6.91E-03 | 40.5 | 1.41E+00 |
| 3 | 1 | 175.32 | 52 | 212 | 1.92 | 351.19 | 1.97E+00 | 4.78E-03 | 52.8 | 1.65E+00 |
| 4 | 1 | 185.85* | 31 | 214 | 2.33 | 372.24 | 1.92E+00 | 2.85E-03 | 98.9 | 8.41E-01 |
| 5 | 1 | 198.64* | 46 | 192 | 1.37 | 397.81 | 1.86E+00 | 4.30E-03 | 62.6 | 1.39E+00 |
| 6 | 1 | 238.53* | 28 | 168 | 1.59 | 477.56 | 1.68E+00 | 2.55E-03 | 99.7 | 1.63E+00 |
| 7 | 1 | 351.87* | 32 | 89 | 1.96 | 704.14 | 1.28E+00 | 3.00E-03 | 64.9 | 2.59E+00 |
| 8 | 1 | 595.60 | 50 | 94 | 2.71 | 1191.42 | 8.63E-01 | 4.63E-03 | 39.6 | 2.82E+00 |
| 9 | 1 | 609.21* | 34 | 81 | 1.53 | 1218.63 | 8.49E-01 | 3.15E-03 | 62.3 | 5.52E+00 |
| 10 | 1 | 1333.70 | 58 | 14 | 1.38 | 2667.28 | 4.60E-01 | 5.35E-03 | 16.6 | 1.01E+01 |

Flag: "*" = Peak area was modified by background subtraction

Nuclide Line Activity Report

Nuclide Type: natural

| Nuclide | Energy | Area | %Abn | %Eff | Uncorrected pCi/L | Decay Corr pCi/L | 2-Sigma %Error |
|---------|--------|-------|--------|-----------|----------------------|---------------------|-------------------|
| RA-226 | 186.21 | 31 | 3.28* | 1.922E+00 | 3.973E+01 | 3.973E+01 | 197.85 |
| TH-228 | 238.63 | 28 | 44.60* | 1.680E+00 | 2.990E+00 | 3.031E+00 | 199.30 |
| | 240.98 | ----- | 3.95 | 1.669E+00 | ----- | Line Not Found | ----- |
| U-235 | 143.76 | ----- | 10.50* | 2.041E+00 | ----- | Line Not Found | ----- |
| | 163.35 | ----- | 4.70 | 2.007E+00 | ----- | Line Not Found | ----- |
| | 185.71 | 31 | 54.00 | 1.922E+00 | 2.413E+00 | 2.413E+00 | 197.85 |
| | 205.31 | ----- | 4.70 | 1.833E+00 | ----- | Line Not Found | ----- |

Flag: "*" = Keyline

Summary of Nuclide Activity
 Sample ID : 04L28851-12

Page : 2
 Acquisition date : 13-JUN-2006 13:29:48

Total number of lines in spectrum 10
 Number of unidentified lines 8
 Number of lines tentatively identified by NID 2 20.00%

Nuclide Type : natural

| Nuclide | Hlife | Decay | Uncorrected pCi/L | Decay Corr pCi/L | Decay Corr 2-Sigma Error | 2-Sigma %Error | Flags |
|------------------|-----------|-------|----------------------|---------------------|-----------------------------|-------------------|-------|
| RA-226 | 1600.00Y | 1.00 | 3.973E+01 | 3.973E+01 | 7.860E+01 | 197.85 | |
| TH-228 | 1.91Y | 1.01 | 2.990E+00 | 3.031E+00 | 6.042E+00 | 199.30 | |
| U-235 | 7.04E+08Y | 1.00 | 2.413E+00 | 2.413E+00 | 4.774E+00 | 197.85 | K |
| Total Activity : | | | 4.513E+01 | 4.517E+01 | | | |

Grand Total Activity : 4.513E+01 4.517E+01

Flags: "K" = Keyline not found "M" = Manually accepted
 "E" = Manually edited "A" = Nuclide specific abn. limit

Unidentified Energy Lines
Sample ID : 04L28851-12

Page : 3
Acquisition date : 13-JUN-2006 13:29:48

| It | Energy | Area | Bkgnd | FWHM | Channel | Left | Pw | Cts/Sec | %Err | %Eff | Flags |
|----|---------|------|-------|------|---------|------|----|----------|------|----------|-------|
| 1 | 66.37 | 71 | 274 | 1.50 | 133.39 | 130 | 8 | 6.58E-03 | 86.7 | 6.65E-01 | |
| 1 | 139.77 | 75 | 255 | 1.28 | 280.12 | 277 | 9 | 6.91E-03 | 81.1 | 2.04E+00 | |
| 1 | 175.32 | 52 | 212 | 1.92 | 351.19 | 347 | 9 | 4.78E-03 | **** | 1.97E+00 | |
| 1 | 198.64 | 46 | 192 | 1.37 | 397.81 | 392 | 10 | 4.30E-03 | **** | 1.86E+00 | |
| 1 | 351.87 | 32 | 89 | 1.96 | 704.14 | 700 | 10 | 3.00E-03 | **** | 1.28E+00 | |
| 1 | 595.60 | 50 | 94 | 2.71 | 1191.42 | 1186 | 11 | 4.63E-03 | 79.2 | 8.63E-01 | |
| 1 | 609.21 | 34 | 81 | 1.53 | 1218.63 | 1214 | 13 | 3.15E-03 | **** | 8.49E-01 | |
| 1 | 1333.70 | 58 | 14 | 1.38 | 2667.28 | 2661 | 12 | 5.35E-03 | 33.2 | 4.60E-01 | |

Flags: "T" = Tentatively associated

Summary of Nuclide Activity

| | | |
|---|----|--------|
| Total number of lines in spectrum | 10 | |
| Number of unidentified lines | 8 | |
| Number of lines tentatively identified by NID | 2 | 20.00% |

Nuclide Type : natural

| Nuclide | Hlife | Decay | Wtd Mean Uncorrected pCi/L | Wtd Mean Decay Corr pCi/L | Decay Corr 2-Sigma Error | 2-Sigma %Error | Flags |
|------------------|----------|-------|----------------------------------|---------------------------------|-----------------------------|-------------------|-------|
| RA-226 | 1600.00Y | 1.00 | 3.973E+01 | 3.973E+01 | 7.860E+01 | 197.85 | |
| TH-228 | 1.91Y | 1.01 | 2.990E+00 | 3.031E+00 | 6.042E+00 | 199.30 | |
| Total Activity : | | | 4.272E+01 | 4.276E+01 | | | |

Grand Total Activity : 4.272E+01 4.276E+01

Flags: "K" = Keyline not found "M" = Manually accepted
"E" = Manually edited "A" = Nuclide specific abn. limit

Interference Report

No interference correction performed

Combined Activity-MDA Report

---- Identified Nuclides ----

| Nuclide | Activity (pCi/L) | Act error | MDA (pCi/L) | MDA error | Act/MDA |
|---------|---------------------|-----------|----------------|-----------|---------|
| RA-226 | 3.973E+01 | 7.860E+01 | 1.147E+02 | 0.000E+00 | 0.346 |
| TH-228 | 3.031E+00 | 6.042E+00 | 9.014E+00 | 0.000E+00 | 0.336 |

---- Non-Identified Nuclides ----


| Nuclide | Key-Line Activity (pCi/L) | K.L. Ided | Act error | MDA (pCi/L) | MDA error | Act/MDA |
|---------|---------------------------------|--------------|-----------|----------------|-----------|---------|
| BE-7 | 1.277E+01 | | 2.997E+01 | 5.083E+01 | 0.000E+00 | 0.251 |

| | | | | | |
|---------|------------|-----------|---------------------|-----------|--------|
| NA-24 | -1.968E+01 | 9.432E+00 | Half-Life too short | | |
| K-40 | 5.617E+00 | 4.409E+01 | 8.179E+01 | 0.000E+00 | 0.069 |
| CR-51 | -9.061E+00 | 3.618E+01 | 5.910E+01 | 0.000E+00 | -0.153 |
| MN-54 | -2.061E+00 | 3.100E+00 | 4.743E+00 | 0.000E+00 | -0.435 |
| CO-57 | 3.976E-01 | 2.777E+00 | 4.553E+00 | 0.000E+00 | 0.087 |
| CO-58 | 1.536E+00 | 3.569E+00 | 6.012E+00 | 0.000E+00 | 0.256 |
| FE-59 | 3.897E+00 | 7.967E+00 | 1.350E+01 | 0.000E+00 | 0.289 |
| CO-60 | 1.050E+00 | 3.756E+00 | 6.269E+00 | 0.000E+00 | 0.167 |
| ZN-65 | 3.021E+00 | 7.045E+00 | 1.212E+01 | 0.000E+00 | 0.249 |
| SE-75 | -2.503E+00 | 4.386E+00 | 6.912E+00 | 0.000E+00 | -0.362 |
| SR-85 | 1.920E+01 | 4.330E+00 | 8.437E+00 | 0.000E+00 | 2.276 |
| Y-88 | -1.209E+00 | 4.122E+00 | 6.564E+00 | 0.000E+00 | -0.184 |
| NB-94 | 3.234E-01 | 3.070E+00 | 5.097E+00 | 0.000E+00 | 0.063 |
| NB-95 | 1.316E+00 | 3.260E+00 | 5.512E+00 | 0.000E+00 | 0.239 |
| ZR-95 | -1.656E+00 | 6.077E+00 | 9.739E+00 | 0.000E+00 | -0.170 |
| MO-99 | -3.377E+02 | 7.519E+02 | 1.190E+03 | 0.000E+00 | -0.284 |
| RU-103 | 5.984E-01 | 3.955E+00 | 6.581E+00 | 0.000E+00 | 0.091 |
| RU-106 | -7.860E+00 | 3.220E+01 | 5.051E+01 | 0.000E+00 | -0.156 |
| AG-110m | -2.346E+00 | 3.224E+00 | 5.073E+00 | 0.000E+00 | -0.462 |
| SN-113 | 2.720E+00 | 4.331E+00 | 7.297E+00 | 0.000E+00 | 0.373 |
| SB-124 | -2.578E+00 | 8.703E+00 | 5.789E+00 | 0.000E+00 | -0.445 |
| SB-125 | -9.059E+00 | 9.135E+00 | 1.442E+01 | 0.000E+00 | -0.628 |
| TE-129M | -9.958E-01 | 4.403E+01 | 7.293E+01 | 0.000E+00 | -0.014 |
| I-131 | 1.034E+01 | 1.023E+01 | 1.764E+01 | 0.000E+00 | 0.586 |
| BA-133 | 2.588E+00 | 4.859E+00 | 7.039E+00 | 0.000E+00 | 0.368 |
| CS-134 | 1.894E+00 | 5.605E+00 | 5.749E+00 | 0.000E+00 | 0.330 |
| CS-136 | -7.371E-01 | 6.437E+00 | 1.038E+01 | 0.000E+00 | -0.071 |
| CS-137 | 1.477E+00 | 3.380E+00 | 5.764E+00 | 0.000E+00 | 0.256 |
| CE-139 | -1.362E-02 | 2.920E+00 | 4.863E+00 | 0.000E+00 | -0.003 |
| BA-140 | -1.986E+00 | 2.254E+01 | 3.674E+01 | 0.000E+00 | -0.054 |
| LA-140 | -1.028E+01 | 7.900E+00 | 1.084E+01 | 0.000E+00 | -0.948 |
| CE-141 | 2.679E+00 | 7.261E+00 | 1.022E+01 | 0.000E+00 | 0.262 |
| CE-144 | -1.482E+01 | 2.441E+01 | 3.425E+01 | 0.000E+00 | -0.433 |
| EU-152 | -1.219E+01 | 1.142E+01 | 1.527E+01 | 0.000E+00 | -0.798 |
| EU-154 | 1.314E+00 | 5.665E+00 | 9.313E+00 | 0.000E+00 | 0.141 |
| AC-228 | 1.095E+01 | 1.283E+01 | 2.249E+01 | 0.000E+00 | 0.487 |
| TH-232 | 1.090E+01 | 1.277E+01 | 2.238E+01 | 0.000E+00 | 0.487 |
| U-235 | 3.576E+00 | 2.527E+01 | 3.517E+01 | 0.000E+00 | 0.102 |
| U-238 | 1.647E+01 | 3.623E+02 | 5.963E+02 | 0.000E+00 | 0.028 |
| AM-241 | -8.510E+00 | 3.047E+01 | 4.721E+01 | 0.000E+00 | -0.180 |

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A,04L28851-12      ,06/13/2006 16:29,05/30/2006 15:15,      3.075E+00,WG L28851-12 D
B,04L28851-12      ,LIBD      ,06/13/2006 09:42,043L082004
C,RA-226      ,YES,      3.973E+01,      7.860E+01,      1.147E+02,,      0.346
C,TH-228      ,YES,      3.031E+00,      6.042E+00,      9.014E+00,,      0.336
C,BE-7        ,NO ,      1.277E+01,      2.997E+01,      5.083E+01,,      0.251
C,K-40        ,NO ,      5.617E+00,      4.409E+01,      8.179E+01,,      0.069
C,CR-51       ,NO ,      -9.061E+00,      3.618E+01,      5.910E+01,,      -0.153
C,MN-54       ,NO ,      -2.061E+00,      3.100E+00,      4.743E+00,,      -0.435
C,CO-57       ,NO ,      3.976E-01,      2.777E+00,      4.553E+00,,      0.087
C,CO-58       ,NO ,      1.536E+00,      3.569E+00,      6.012E+00,,      0.256
C,FE-59       ,NO ,      3.897E+00,      7.967E+00,      1.350E+01,,      0.289
C,CO-60       ,NO ,      1.050E+00,      3.756E+00,      6.269E+00,,      0.167
C,ZN-65       ,NO ,      3.021E+00,      7.045E+00,      1.212E+01,,      0.249
C,SE-75       ,NO ,      -2.503E+00,      4.386E+00,      6.912E+00,,      -0.362
C,SR-85       ,NO ,      1.920E+01,      4.330E+00,      8.437E+00,,      2.276
C,Y-88        ,NO ,      -1.209E+00,      4.122E+00,      6.564E+00,,      -0.184
C,NB-94       ,NO ,      3.234E-01,      3.070E+00,      5.097E+00,,      0.063
C,NB-95       ,NO ,      1.316E+00,      3.260E+00,      5.512E+00,,      0.239
C,ZR-95       ,NO ,      -1.656E+00,      6.077E+00,      9.739E+00,,      -0.170
C,ZR-95       ,NO ,      -1.656E+00,      6.077E+00,      9.739E+00,,      -0.284
C,MO-99       ,NO ,      -3.377E+02,      7.519E+02,      1.190E+03,,      0.091
C,RU-103      ,NO ,      5.984E-01,      3.955E+00,      6.581E+00,,      -0.156
C,RU-106      ,NO ,      -7.860E+00,      3.220E+01,      5.051E+01,,      -0.462
C,AG-110m     ,NO ,      -2.346E+00,      3.224E+00,      5.073E+00,,      0.373
C,SN-113      ,NO ,      2.720E+00,      4.331E+00,      7.297E+00,,      -0.445
C,SB-124      ,NO ,      -2.578E+00,      8.703E+00,      5.789E+00,,      -0.628
C,SB-125      ,NO ,      -9.059E+00,      9.135E+00,      1.442E+01,,      -0.014
C,TE-129M     ,NO ,      -9.958E-01,      4.403E+01,      7.293E+01,,      0.586
C,I-131       ,NO ,      1.034E+01,      1.023E+01,      1.764E+01,,      0.368
C,BA-133      ,NO ,      2.588E+00,      4.859E+00,      7.039E+00,,      0.330
C,CS-134      ,NO ,      1.894E+00,      5.605E+00,      5.749E+00,,      -0.071
C,CS-136      ,NO ,      -7.371E-01,      6.437E+00,      1.038E+01,,      0.256
C,CS-137      ,NO ,      1.477E+00,      3.380E+00,      5.764E+00,,      -0.003
C,CE-139      ,NO ,      -1.362E-02,      2.920E+00,      4.863E+00,,      -0.054
C,BA-140      ,NO ,      -1.986E+00,      2.254E+01,      3.674E+01,,      -0.948
C,LA-140      ,NO ,      -1.028E+01,      7.900E+00,      1.084E+01,,      0.262
C,CE-141      ,NO ,      2.679E+00,      7.261E+00,      1.022E+01,,      -0.433
C,CE-144      ,NO ,      -1.482E+01,      2.441E+01,      3.425E+01,,      -0.798
C,EU-152      ,NO ,      -1.219E+01,      1.142E+01,      1.527E+01,,      0.141
C,EU-154      ,NO ,      1.314E+00,      5.665E+00,      9.313E+00,,      0.487
C,AC-228      ,NO ,      1.095E+01,      1.283E+01,      2.249E+01,,      0.487
C,TH-232      ,NO ,      1.090E+01,      1.277E+01,      2.238E+01,,      0.102
C,U-235       ,NO ,      3.576E+00,      2.527E+01,      3.517E+01,,      0.028
C,U-238       ,NO ,      1.647E+01,      3.623E+02,      5.963E+02,,      -0.180
C,AM-241      ,NO ,      -8.510E+00,      3.047E+01,      4.721E+01,,

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Sec. Review: Analyst: LIMS: 

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VAX/VMS Teledyne Brown Eng. Laboratory Gamma Report: 13-JUN-2006 15:55:18.11

TBE07 P-10768B HpGe ***** Aquisition Date/Time: 13-JUN-2006 13:29:52.18

LIMS No., Customer Name, Client ID: WG L28751-13 DRESDEN

| | | | |
|---------------|-----------------|---------------|-----------------------|
| Sample ID | : 07L28851-13 | Smple Date: | 30-MAY-2006 17:20:00. |
| Sample Type | : WG | Geometry | : 073L082504 |
| Quantity | : 3.20040E+00 L | BKGFILE | : 07BG060306MT |
| Start Channel | : 40 | Energy Tol | : 1.00000 |
| End Channel | : 4090 | Pk Srch Sens: | 5.00000 |
| MDA Constant | : 0.00 | Library Used: | LIBD |
| | | Real Time | : 0 02:25:17.99 |
| | | Live time | : 0 02:25:16.33 |

| Pk | It | Energy | Area | Bkgnd | FWHM | Channel | %Eff | Cts/Sec | %Err | Fit |
|----|----|----------|------|-------|------|---------|----------|----------|------|----------|
| 1 | 1 | 66.72* | 116 | 280 | 2.19 | 134.02 | 8.21E-01 | 1.33E-02 | 31.8 | 3.02E+00 |
| 2 | 1 | 139.91* | 65 | 230 | 1.10 | 280.51 | 2.36E+00 | 7.48E-03 | 45.5 | 2.41E-01 |
| 3 | 1 | 198.22* | 69 | 195 | 2.54 | 397.21 | 2.25E+00 | 7.89E-03 | 43.8 | 1.98E+00 |
| 4 | 1 | 1461.09* | 26 | 13 | 2.37 | 2923.16 | 5.83E-01 | 2.94E-03 | 54.1 | 9.21E-01 |

Flag: "*" = Peak area was modified by background subtraction

Nuclide Line Activity Report

Nuclide Type: natural

| Nuclide | Energy | Area | %Abn | %Eff | Uncorrected pCi/L | Decay Corr pCi/L | 2-Sigma %Error |
|---------|---------|------|--------|-----------|----------------------|---------------------|-------------------|
| K-40 | 1460.81 | 26 | 10.67* | 5.827E-01 | 3.998E+01 | 3.998E+01 | 108.17 |

Flag: "*" = Keyline

Summary of Nuclide Activity
 Sample ID : 07L28851-13

Page : 2
 Acquisition date : 13-JUN-2006 13:29:52

| | | |
|---|---|--------|
| Total number of lines in spectrum | 4 | |
| Number of unidentified lines | 3 | |
| Number of lines tentatively identified by NID | 1 | 25.00% |

Nuclide Type : natural

| Nuclide | Hlife | Decay | Uncorrected pCi/L | Decay Corr pCi/L | Decay Corr 2-Sigma Error | 2-Sigma %Error | Flags |
|------------------|-----------|-------|----------------------|---------------------|-----------------------------|-------------------|-------|
| K-40 | 1.28E+09Y | 1.00 | 3.998E+01 | 3.998E+01 | 4.325E+01 | 108.17 | |
| | | | ----- | ----- | | | |
| Total Activity : | | | 3.998E+01 | 3.998E+01 | | | |

Grand Total Activity : 3.998E+01 3.998E+01

| | |
|--------------------------------|-----------------------------------|
| Flags: "K" = Keyline not found | "M" = Manually accepted |
| "E" = Manually edited | "A" = Nuclide specific abn. limit |

Unidentified Energy Lines
Sample ID : 07L28851-13

Page : 3
Acquisition date : 13-JUN-2006 13:29:52

| It | Energy | Area | Bkgnd | FWHM | Channel | Left | Pw | Cts/Sec | %Err | %Eff | Flags |
|----|--------|------|-------|------|---------|------|----|----------|------|----------|-------|
| 1 | 66.72 | 116 | 280 | 2.19 | 134.02 | 129 | 12 | 1.33E-02 | 63.6 | 8.21E-01 | |
| 1 | 139.91 | 65 | 230 | 1.10 | 280.51 | 276 | 9 | 7.48E-03 | 90.9 | 2.36E+00 | |
| 1 | 198.22 | 69 | 195 | 2.54 | 397.21 | 392 | 11 | 7.89E-03 | 87.7 | 2.25E+00 | |

Flags: "T" = Tentatively associated

Summary of Nuclide Activity

| | |
|---|---------------|
| Total number of lines in spectrum | 4 |
| Number of unidentified lines | 3 |
| Number of lines tentatively identified by NID | 1 25.00% |

Nuclide Type : natural

| Nuclide | Hlife | Decay | Wtd Mean Uncorrected pCi/L | Wtd Mean Decay Corr pCi/L | Decay Corr 2-Sigma Error | 2-Sigma %Error | Flags |
|------------------|-----------|-------|----------------------------------|---------------------------------|-----------------------------|-------------------|-------|
| K-40 | 1.28E+09Y | 1.00 | 3.998E+01 | 3.998E+01 | 4.325E+01 | 108.17 | |
| Total Activity : | | | 3.998E+01 | 3.998E+01 | | | |

Grand Total Activity : 3.998E+01 3.998E+01

Flags: "K" = Keyline not found "M" = Manually accepted
"E" = Manually edited "A" = Nuclide specific abn. limit

Interference Report

No interference correction performed

Combined Activity-MDA Report

---- Identified Nuclides ----

| Nuclide | Activity (pCi/L) | Act error | MDA (pCi/L) | MDA error | Act/MDA |
|---------|---------------------|-----------|----------------|-----------|---------|
| K-40 | 3.998E+01 | 4.325E+01 | 5.207E+01 | 0.000E+00 | 0.768 |

---- Non-Identified Nuclides ----

| Nuclide | Key-Line Activity (pCi/L) | K.L. Ided | Act error | MDA (pCi/L) | MDA error | Act/MDA |
|---------|---------------------------------|--------------|-----------|---------------------|-----------|---------|
| BE-7 | -8.439E+00 | | 2.905E+01 | 4.645E+01 | 0.000E+00 | -0.182 |
| NA-24 | -4.177E+00 | | 6.819E+00 | Half-Life too short | | |
| CR-51 | -3.765E+01 | | 3.330E+01 | 5.244E+01 | 0.000E+00 | -0.718 |
| MN-54 | 3.251E+00 | | 2.883E+00 | 5.167E+00 | 0.000E+00 | 0.629 |
| CO-57 | 1.097E+00 | | 2.924E+00 | 4.843E+00 | 0.000E+00 | 0.226 |
| CO-58 | -3.257E+00 | | 3.175E+00 | 4.821E+00 | 0.000E+00 | -0.676 |
| FE-59 | -1.041E-01 | | 6.699E+00 | 1.108E+01 | 0.000E+00 | -0.009 |
| CO-60 | -1.833E+00 | | 3.143E+00 | 4.818E+00 | 0.000E+00 | -0.381 |

| | | | | | |
|---------|------------|-----------|-----------|-----------|--------|
| ZN-65 | 3.498E+00 | 6.696E+00 | 1.154E+01 | 0.000E+00 | 0.303 |
| SE-75 | 1.761E+00 | 4.187E+00 | 6.962E+00 | 0.000E+00 | 0.253 |
| SR-85 | 1.954E+01 | 4.134E+00 | 8.145E+00 | 0.000E+00 | 2.399 |
| Y-88 | -6.314E-01 | 3.216E+00 | 5.187E+00 | 0.000E+00 | -0.122 |
| NB-94 | -2.487E+00 | 3.130E+00 | 4.837E+00 | 0.000E+00 | -0.514 |
| NB-95 | -6.581E-01 | 3.453E+00 | 5.663E+00 | 0.000E+00 | -0.116 |
| ZR-95 | -1.320E+00 | 6.137E+00 | 9.805E+00 | 0.000E+00 | -0.135 |
| MO-99 | -2.665E+02 | 7.362E+02 | 1.164E+03 | 0.000E+00 | -0.229 |
| RU-103 | 1.105E+00 | 3.942E+00 | 6.508E+00 | 0.000E+00 | 0.170 |
| RU-106 | -1.152E+00 | 2.814E+01 | 4.616E+01 | 0.000E+00 | -0.025 |
| AG-110m | 2.229E+00 | 2.905E+00 | 5.018E+00 | 0.000E+00 | 0.444 |
| SN-113 | 2.674E-02 | 4.168E+00 | 6.867E+00 | 0.000E+00 | 0.004 |
| SB-124 | -6.480E+00 | 3.852E+00 | 5.736E+00 | 0.000E+00 | -1.130 |
| SB-125 | 1.114E+00 | 8.426E+00 | 1.391E+01 | 0.000E+00 | 0.080 |
| TE-129M | 1.542E+01 | 4.341E+01 | 7.233E+01 | 0.000E+00 | 0.213 |
| I-131 | -2.312E+00 | 9.534E+00 | 1.557E+01 | 0.000E+00 | -0.149 |
| BA-133 | 4.002E+00 | 4.232E+00 | 7.310E+00 | 0.000E+00 | 0.547 |
| CS-134 | -9.953E-01 | 3.309E+00 | 5.361E+00 | 0.000E+00 | -0.186 |
| CS-136 | 8.670E+00 | 5.617E+00 | 1.037E+01 | 0.000E+00 | 0.836 |
| CS-137 | 3.022E+00 | 3.056E+00 | 5.360E+00 | 0.000E+00 | 0.564 |
| CE-139 | -4.368E-01 | 2.949E+00 | 4.894E+00 | 0.000E+00 | -0.089 |
| BA-140 | -1.493E+00 | 2.143E+01 | 3.542E+01 | 0.000E+00 | -0.042 |
| LA-140 | 1.057E+00 | 7.157E+00 | 1.195E+01 | 0.000E+00 | 0.088 |
| CE-141 | 8.483E-01 | 7.428E+00 | 1.031E+01 | 0.000E+00 | 0.082 |
| CE-144 | 3.955E+00 | 2.548E+01 | 3.560E+01 | 0.000E+00 | 0.111 |
| EU-152 | -1.066E+01 | 9.417E+00 | 1.478E+01 | 0.000E+00 | -0.721 |
| EU-154 | 2.806E+00 | 5.992E+00 | 9.955E+00 | 0.000E+00 | 0.282 |
| RA-226 | -4.984E+01 | 7.234E+01 | 1.188E+02 | 0.000E+00 | -0.420 |
| AC-228 | 4.996E+00 | 1.194E+01 | 2.035E+01 | 0.000E+00 | 0.246 |
| TH-228 | -1.243E-02 | 5.715E+00 | 9.553E+00 | 0.000E+00 | -0.001 |
| TH-232 | 4.973E+00 | 1.189E+01 | 2.025E+01 | 0.000E+00 | 0.246 |
| U-235 | 2.820E+01 | 2.523E+01 | 3.695E+01 | 0.000E+00 | 0.763 |
| U-238 | 9.817E+01 | 3.135E+02 | 5.258E+02 | 0.000E+00 | 0.187 |
| AM-241 | 1.717E+01 | 2.989E+01 | 4.423E+01 | 0.000E+00 | 0.388 |

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A,07L28851-13      ,06/13/2006 15:55,05/30/2006 17:20,    3.200E+00,WG L28751-13 D
B,07L28851-13      ,LIBD      ,06/07/2006 09:32,073L082504
C,K-40      ,YES,    3.998E+01,    4.325E+01,    5.207E+01,,    0.768
C,BE-7      ,NO ,    -8.439E+00,    2.905E+01,    4.645E+01,,    -0.182
C,CR-51     ,NO ,    -3.765E+01,    3.330E+01,    5.244E+01,,    -0.718
C,MN-54     ,NO ,    3.251E+00,    2.883E+00,    5.167E+00,,    0.629
C,CO-57     ,NO ,    1.097E+00,    2.924E+00,    4.843E+00,,    0.226
C,CO-58     ,NO ,    -3.257E+00,    3.175E+00,    4.821E+00,,    -0.676
C,FE-59     ,NO ,    -1.041E-01,    6.699E+00,    1.108E+01,,    -0.009
C,CO-60     ,NO ,    -1.833E+00,    3.143E+00,    4.818E+00,,    -0.381
C,ZN-65     ,NO ,    3.498E+00,    6.696E+00,    1.154E+01,,    0.303
C,SE-75     ,NO ,    1.761E+00,    4.187E+00,    6.962E+00,,    0.253
C,SR-85     ,NO ,    1.954E+01,    4.134E+00,    8.145E+00,,    2.399
C,Y-88      ,NO ,    -6.314E-01,    3.216E+00,    5.187E+00,,    -0.122
C,NB-94     ,NO ,    -2.487E+00,    3.130E+00,    4.837E+00,,    -0.514
C,NB-95     ,NO ,    -6.581E-01,    3.453E+00,    5.663E+00,,    -0.116
C,ZR-95     ,NO ,    -1.320E+00,    6.137E+00,    9.805E+00,,    -0.135
C,MO-99     ,NO ,    -2.665E+02,    7.362E+02,    1.164E+03,,    -0.229
C,RU-103    ,NO ,    1.105E+00,    3.942E+00,    6.508E+00,,    0.170
C,RU-106    ,NO ,    -1.152E+00,    2.814E+01,    4.616E+01,,    -0.025
C,AG-110m   ,NO ,    2.229E+00,    2.905E+00,    5.018E+00,,    0.444
C,SN-113    ,NO ,    2.674E-02,    4.168E+00,    6.867E+00,,    0.004
C,SB-124    ,NO ,    -6.480E+00,    3.852E+00,    5.736E+00,,    -1.130
C,SB-125    ,NO ,    1.114E+00,    8.426E+00,    1.391E+01,,    0.080
C,TE-129M   ,NO ,    1.542E+01,    4.341E+01,    7.233E+01,,    0.213
C,I-131     ,NO ,    -2.312E+00,    9.534E+00,    1.557E+01,,    -0.149
C,BA-133    ,NO ,    4.002E+00,    4.232E+00,    7.310E+00,,    0.547
C,CS-134    ,NO ,    -9.953E-01,    3.309E+00,    5.361E+00,,    -0.186
C,CS-136    ,NO ,    8.670E+00,    5.617E+00,    1.037E+01,,    0.836
C,CS-137    ,NO ,    3.022E+00,    3.056E+00,    5.360E+00,,    0.564
C,CE-139    ,NO ,    -4.368E-01,    2.949E+00,    4.894E+00,,    -0.089
C,BA-140    ,NO ,    -1.493E+00,    2.143E+01,    3.542E+01,,    -0.042
C,LA-140    ,NO ,    1.057E+00,    7.157E+00,    1.195E+01,,    0.088
C,CE-141    ,NO ,    8.483E-01,    7.428E+00,    1.031E+01,,    0.082
C,CE-144    ,NO ,    3.955E+00,    2.548E+01,    3.560E+01,,    0.111
C,EU-152    ,NO ,    -1.066E+01,    9.417E+00,    1.478E+01,,    -0.721
C,EU-154    ,NO ,    2.806E+00,    5.992E+00,    9.955E+00,,    0.282
C,RA-226    ,NO ,    -4.984E+01,    7.234E+01,    1.188E+02,,    -0.420
C,AC-228    ,NO ,    4.996E+00,    1.194E+01,    2.035E+01,,    0.246
C,TH-228    ,NO ,    -1.243E-02,    5.715E+00,    9.553E+00,,    -0.001
C,TH-232    ,NO ,    4.973E+00,    1.189E+01,    2.025E+01,,    0.246
C,U-235     ,NO ,    2.820E+01,    2.523E+01,    3.695E+01,,    0.763
C,U-238     ,NO ,    9.817E+01,    3.135E+02,    5.258E+02,,    0.187
C,AM-241    ,NO ,    1.717E+01,    2.989E+01,    4.423E+01,,    0.388

```

Sec. Review: Analyst: YAW LIMS: ✓

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VAX/VMS Teledyne Brown Eng. Laboratory Gamma Report: 13-JUN-2006 18:35:51.30

TBE23 03017322 HpGe ***** Aquisition Date/Time: 13-JUN-2006 14:21:02.99

LIMS No., Customer Name, Client ID: WG L28851-14 DRESDEN

| | | | |
|---------------|-----------------|---------------|-----------------------|
| Sample ID | : 23L28851-14 | Smple Date: | 31-MAY-2006 10:15:00. |
| Sample Type | : WG | Geometry | : 233L082404 |
| Quantity | : 3.15880E+00 L | BKGFILE | : 23BG060306MT |
| Start Channel | : 50 | Energy Tol | : 1.50000 |
| End Channel | : 4090 | Pk Srch Sens: | 5.00000 |
| MDA Constant | : 0.00 | Library Used: | LIBD |
| | | Real Time | : 0 04:14:39.93 |
| | | Live time | : 0 04:14:29.36 |

| Pk | It | Energy | Area | Bkgnd | FWHM | Channel | %Eff | Cts/Sec | %Err | Fit |
|----|----|----------|------|-------|------|---------|----------|----------|-------|----------|
| 1 | 6 | 33.64* | 54 | 12 | 1.10 | 67.61 | 8.04E-02 | 3.52E-03 | 34.0 | 5.64E+00 |
| 2 | 6 | 35.36* | 48 | 115 | 2.13 | 71.04 | 1.08E-01 | 3.15E-03 | 80.3 | |
| 3 | 6 | 37.90* | 17 | 222 | 2.14 | 76.12 | 1.57E-01 | 1.10E-03 | 241.7 | |
| 4 | 3 | 63.22* | 113 | 566 | 1.66 | 126.72 | 1.04E+00 | 7.40E-03 | 43.9 | 2.11E+00 |
| 5 | 3 | 66.26 | 130 | 472 | 1.42 | 132.79 | 1.16E+00 | 8.52E-03 | 30.4 | |
| 6 | 0 | 92.74* | 57 | 771 | 1.36 | 185.72 | 1.94E+00 | 3.71E-03 | 104.2 | |
| 7 | 0 | 139.91* | 57 | 624 | 1.15 | 279.99 | 2.32E+00 | 3.74E-03 | 84.4 | |
| 8 | 0 | 198.57* | 69 | 354 | 1.42 | 397.23 | 2.11E+00 | 4.50E-03 | 53.0 | |
| 9 | 0 | 238.33* | 18 | 284 | 0.91 | 476.70 | 1.90E+00 | 1.19E-03 | 186.6 | |
| 10 | 0 | 595.55 | 79 | 78 | 1.85 | 1190.79 | 9.56E-01 | 5.19E-03 | 24.2 | |
| 11 | 0 | 1001.62* | 25 | 35 | 1.09 | 2002.76 | 6.64E-01 | 1.67E-03 | 52.7 | |

Flag: "*" = Peak area was modified by background subtraction

Nuclide Line Activity Report

Nuclide Type: natural

| Nuclide | Energy | Area | %Abn | %Eff | Uncorrected pCi/L | Decay Corr pCi/L | 2-Sigma %Error |
|---------|---------|-------|--------|-----------|----------------------|---------------------|-------------------|
| TH-228 | 238.63 | 18 | 44.60* | 1.902E+00 | 1.205E+00 | 1.221E+00 | 373.16 |
| | 240.98 | ----- | 3.95 | 1.888E+00 | ----- | Line Not Found | ----- |
| U-238 | 766.41 | ----- | 0.21 | 7.978E-01 | ----- | Line Not Found | ----- |
| | 1001.03 | 25 | 0.92* | 6.643E-01 | 2.338E+02 | 2.338E+02 | 105.45 |

Flag: "*" = Keyline

Summary of Nuclide Activity

Page : 2

Sample ID : 23L28851-14

Acquisition date : 13-JUN-2006 14:21:02

| | | |
|---|----|--------|
| Total number of lines in spectrum | 11 | |
| Number of unidentified lines | 9 | |
| Number of lines tentatively identified by NID | 2 | 18.18% |

Nuclide Type : natural

| Nuclide | Hlife | Decay | Uncorrected pCi/L | Decay Corr pCi/L | Decay Corr 2-Sigma Error | 2-Sigma %Error | Flags |
|------------------|-----------|-------|----------------------|---------------------|-----------------------------|-------------------|-------|
| TH-228 | 1.91Y | 1.01 | 1.205E+00 | 1.221E+00 | 4.558E+00 | 373.16 | |
| U-238 | 4.47E+09Y | 1.00 | 2.338E+02 | 2.338E+02 | 2.465E+02 | 105.45 | |
| Total Activity : | | | 2.350E+02 | 2.350E+02 | | | |

Grand Total Activity : 2.350E+02 2.350E+02

Flags: "K" = Keyline not found
 "E" = Manually edited

"M" = Manually accepted
 "A" = Nuclide specific abn. limit

Unidentified Energy Lines

Page : 3

Sample ID : 23L28851-14

Acquisition date : 13-JUN-2006 14:21:02

| It | Energy | Area | Bkgnd | FWHM | Channel | Left | Pw | Cts/Sec | %Err | %Eff | Flags |
|----|--------|------|-------|------|---------|------|----|----------|------|----------|-------|
| 6 | 33.64 | 54 | 12 | 1.10 | 67.61 | 65 | 24 | 3.52E-03 | 67.9 | 8.04E-02 | |
| 6 | 35.36 | 48 | 115 | 2.13 | 71.04 | 65 | 24 | 3.15E-03 | **** | 1.08E-01 | |
| 6 | 37.90 | 17 | 222 | 2.14 | 76.12 | 65 | 24 | 1.10E-03 | **** | 1.57E-01 | |
| 3 | 63.22 | 113 | 566 | 1.66 | 126.72 | 120 | 18 | 7.40E-03 | 87.8 | 1.04E+00 | |
| 3 | 66.26 | 130 | 472 | 1.42 | 132.79 | 120 | 18 | 8.52E-03 | 60.8 | 1.16E+00 | |
| 0 | 92.74 | 57 | 771 | 1.36 | 185.72 | 180 | 11 | 3.71E-03 | **** | 1.94E+00 | |
| 0 | 139.91 | 57 | 624 | 1.15 | 279.99 | 276 | 9 | 3.74E-03 | **** | 2.32E+00 | |
| 0 | 198.57 | 69 | 354 | 1.42 | 397.23 | 393 | 8 | 4.50E-03 | **** | 2.11E+00 | |
| 0 | 595.55 | 79 | 78 | 1.85 | 1190.79 | 1186 | 11 | 5.19E-03 | 48.4 | 9.56E-01 | |

Flags: "T" = Tentatively associated

Summary of Nuclide Activity

| | | |
|---|----|--------|
| Total number of lines in spectrum | 11 | |
| Number of unidentified lines | 9 | |
| Number of lines tentatively identified by NID | 2 | 18.18% |

Nuclide Type : natural

| Nuclide | Hlife | Decay | Wtd Mean Uncorrected pCi/L | Wtd Mean Decay Corr pCi/L | Decay Corr 2-Sigma Error | 2-Sigma %Error | Flags |
|------------------|-----------|-------|----------------------------------|---------------------------------|-----------------------------|-------------------|-------|
| TH-228 | 1.91Y | 1.01 | 1.205E+00 | 1.221E+00 | 4.558E+00 | 373.16 | |
| U-238 | 4.47E+09Y | 1.00 | 2.338E+02 | 2.338E+02 | 2.465E+02 | 105.45 | |
| Total Activity : | | | 2.350E+02 | 2.350E+02 | | | |

Grand Total Activity : 2.350E+02 2.350E+02

| | |
|--------------------------------|-----------------------------------|
| Flags: "K" = Keyline not found | "M" = Manually accepted |
| "E" = Manually edited | "A" = Nuclide specific abn. limit |

Interference Report

No interference correction performed

Combined Activity-MDA Report

---- Identified Nuclides ----

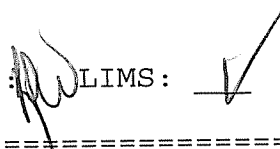

| Nuclide | Activity (pCi/L) | Act error | MDA (pCi/L) | MDA error | Act/MDA |
|---------|---------------------|-----------|----------------|-----------|---------|
| TH-228 | 1.221E+00 | 4.558E+00 | 8.096E+00 | 0.000E+00 | 0.151 |
| U-238 | 2.338E+02 | 2.465E+02 | 4.565E+02 | 0.000E+00 | 0.512 |

---- Non-Identified Nuclides ----

| Nuclide | Key-Line Activity (pCi/L) | K.L. Ided | Act error | MDA (pCi/L) | MDA error | Act/MDA |
|---------|---------------------------------|--------------|-----------|----------------|-----------|---------|
|---------|---------------------------------|--------------|-----------|----------------|-----------|---------|

| | | | | | |
|---------|------------|-----------|---------------------|-----------|--------|
| BE-7 | -8.090E+00 | 2.439E+01 | 4.073E+01 | 0.000E+00 | -0.199 |
| NA-24 | -3.568E+00 | 3.276E+00 | Half-Life too short | | |
| K-40 | -2.209E+01 | 3.778E+01 | 7.377E+01 | 0.000E+00 | -0.299 |
| CR-51 | -3.393E+01 | 2.929E+01 | 4.796E+01 | 0.000E+00 | -0.708 |
| MN-54 | 2.069E+00 | 2.510E+00 | 4.527E+00 | 0.000E+00 | 0.457 |
| CO-57 | -9.658E-01 | 2.803E+00 | 4.674E+00 | 0.000E+00 | -0.207 |
| CO-58 | -6.358E-01 | 2.766E+00 | 4.702E+00 | 0.000E+00 | -0.135 |
| FE-59 | 1.682E+00 | 5.249E+00 | 9.423E+00 | 0.000E+00 | 0.178 |
| CO-60 | 1.822E+00 | 2.435E+00 | 4.523E+00 | 0.000E+00 | 0.403 |
| ZN-65 | 2.218E+00 | 5.148E+00 | 9.279E+00 | 0.000E+00 | 0.239 |
| SE-75 | -9.656E-01 | 3.840E+00 | 6.507E+00 | 0.000E+00 | -0.148 |
| SR-85 | 1.387E+01 | 3.329E+00 | 6.386E+00 | 0.000E+00 | 2.171 |
| Y-88 | -1.408E+00 | 2.976E+00 | 5.067E+00 | 0.000E+00 | -0.278 |
| NB-94 | 1.765E+00 | 2.395E+00 | 4.288E+00 | 0.000E+00 | 0.412 |
| NB-95 | 3.301E+00 | 2.875E+00 | 5.246E+00 | 0.000E+00 | 0.629 |
| ZR-95 | -1.228E+00 | 5.027E+00 | 8.551E+00 | 0.000E+00 | -0.144 |
| MO-99 | 3.782E+02 | 5.315E+02 | 9.512E+02 | 0.000E+00 | 0.398 |
| RU-103 | -2.238E-01 | 3.300E+00 | 5.561E+00 | 0.000E+00 | -0.040 |
| RU-106 | 9.832E+00 | 2.328E+01 | 4.120E+01 | 0.000E+00 | 0.239 |
| AG-110m | 1.488E-01 | 2.509E+00 | 4.355E+00 | 0.000E+00 | 0.034 |
| SN-113 | 2.996E+00 | 3.448E+00 | 6.063E+00 | 0.000E+00 | 0.494 |
| SB-124 | -7.044E+00 | 3.913E+00 | 5.026E+00 | 0.000E+00 | -1.401 |
| SB-125 | 2.491E+00 | 7.381E+00 | 1.270E+01 | 0.000E+00 | 0.196 |
| TE-129M | 4.688E+00 | 3.637E+01 | 6.206E+01 | 0.000E+00 | 0.076 |
| I-131 | 7.952E-01 | 8.213E+00 | 1.401E+01 | 0.000E+00 | 0.057 |
| BA-133 | -2.897E-01 | 3.632E+00 | 6.157E+00 | 0.000E+00 | -0.047 |
| CS-134 | 5.854E+00 | 2.993E+00 | 5.007E+00 | 0.000E+00 | 1.169 |
| CS-136 | -4.219E-04 | 4.642E+00 | 8.016E+00 | 0.000E+00 | 0.000 |
| CS-137 | -2.298E-01 | 2.721E+00 | 4.686E+00 | 0.000E+00 | -0.049 |
| CE-139 | -3.529E-01 | 2.885E+00 | 4.804E+00 | 0.000E+00 | -0.073 |
| BA-140 | 8.460E+00 | 1.788E+01 | 3.099E+01 | 0.000E+00 | 0.273 |
| LA-140 | 2.732E+00 | 5.412E+00 | 1.007E+01 | 0.000E+00 | 0.271 |
| CE-141 | 8.845E-01 | 7.108E+00 | 1.014E+01 | 0.000E+00 | 0.087 |
| CE-144 | 6.073E+00 | 2.580E+01 | 3.699E+01 | 0.000E+00 | 0.164 |
| EU-152 | -7.595E+00 | 8.443E+00 | 1.392E+01 | 0.000E+00 | -0.546 |
| EU-154 | -5.663E+00 | 5.770E+00 | 9.492E+00 | 0.000E+00 | -0.597 |
| RA-226 | 3.380E+01 | 7.467E+01 | 1.211E+02 | 0.000E+00 | 0.279 |
| AC-228 | -1.266E+00 | 9.941E+00 | 1.561E+01 | 0.000E+00 | -0.081 |
| TH-232 | -1.260E+00 | 9.898E+00 | 1.554E+01 | 0.000E+00 | -0.081 |
| U-235 | 8.067E+00 | 2.591E+01 | 3.642E+01 | 0.000E+00 | 0.222 |
| AM-241 | 2.169E+01 | 1.765E+01 | 2.581E+01 | 0.000E+00 | 0.840 |

A,23L28851-14 ,06/13/2006 18:35,05/31/2006 10:15, 3.159E+00,WG L28851-14 D
 B,23L28851-14 ,LIBD ,06/01/2006 10:14,233L082404
 C,TH-228 ,YES, 1.221E+00, 4.558E+00, 8.096E+00,, 0.151
 C,U-238 ,YES, 2.338E+02, 2.465E+02, 4.565E+02,, 0.512
 C,BE-7 ,NO , -8.090E+00, 2.439E+01, 4.073E+01,, -0.199
 C,K-40 ,NO , -2.209E+01, 3.778E+01, 7.377E+01,, -0.299
 C,CR-51 ,NO , -3.393E+01, 2.929E+01, 4.796E+01,, -0.708
 C,MN-54 ,NO , 2.069E+00, 2.510E+00, 4.527E+00,, 0.457
 C,CO-57 ,NO , -9.658E-01, 2.803E+00, 4.674E+00,, -0.207
 C,CO-58 ,NO , -6.358E-01, 2.766E+00, 4.702E+00,, -0.135
 C,FE-59 ,NO , 1.682E+00, 5.249E+00, 9.423E+00,, 0.178
 C,CO-60 ,NO , 1.822E+00, 2.435E+00, 4.523E+00,, 0.403
 C,ZN-65 ,NO , 2.218E+00, 5.148E+00, 9.279E+00,, 0.239
 C,SE-75 ,NO , -9.656E-01, 3.840E+00, 6.507E+00,, -0.148
 C,SR-85 ,NO , 1.387E+01, 3.329E+00, 6.386E+00,, 2.171
 C,Y-88 ,NO , -1.408E+00, 2.976E+00, 5.067E+00,, -0.278
 C,NB-94 ,NO , 1.765E+00, 2.395E+00, 4.288E+00,, 0.412
 C,NB-95 ,NO , 3.301E+00, 2.875E+00, 5.246E+00,, 0.629
 C,ZR-95 ,NO , -1.228E+00, 5.027E+00, 8.551E+00,, -0.144
 C,MO-99 ,NO , 3.782E+02, 5.315E+02, 9.512E+02,, 0.398
 C,RU-103 ,NO , -2.238E-01, 3.300E+00, 5.561E+00,, -0.040
 C,RU-106 ,NO , 9.832E+00, 2.328E+01, 4.120E+01,, 0.239
 C,AG-110m ,NO , 1.488E-01, 2.509E+00, 4.355E+00,, 0.034
 C,SN-113 ,NO , 2.996E+00, 3.448E+00, 6.063E+00,, 0.494
 C,SB-124 ,NO , -7.044E+00, 3.913E+00, 5.026E+00,, -1.401
 C,SB-125 ,NO , 2.491E+00, 7.381E+00, 1.270E+01,, 0.196
 C,TE-129M ,NO , 4.688E+00, 3.637E+01, 6.206E+01,, 0.076
 C,I-131 ,NO , 7.952E-01, 8.213E+00, 1.401E+01,, 0.057
 C,BA-133 ,NO , -2.897E-01, 3.632E+00, 6.157E+00,, -0.047
 C,CS-134 ,NO , 5.854E+00, 2.993E+00, 5.007E+00,, 1.169
 C,CS-136 ,NO , -4.219E-04, 4.642E+00, 8.016E+00,, 0.000
 C,CS-137 ,NO , -2.298E-01, 2.721E+00, 4.686E+00,, -0.049
 C,CE-139 ,NO , -3.529E-01, 2.885E+00, 4.804E+00,, -0.073
 C,BA-140 ,NO , 8.460E+00, 1.788E+01, 3.099E+01,, 0.273
 C,LA-140 ,NO , 2.732E+00, 5.412E+00, 1.007E+01,, 0.271
 C,CE-141 ,NO , 8.845E-01, 7.108E+00, 1.014E+01,, 0.087
 C,CE-144 ,NO , 6.073E+00, 2.580E+01, 3.699E+01,, 0.164
 C,EU-152 ,NO , -7.595E+00, 8.443E+00, 1.392E+01,, -0.546
 C,EU-154 ,NO , -5.663E+00, 5.770E+00, 9.492E+00,, -0.597
 C,RA-226 ,NO , 3.380E+01, 7.467E+01, 1.211E+02,, 0.279
 C,AC-228 ,NO , -1.266E+00, 9.941E+00, 1.561E+01,, -0.081
 C,TH-232 ,NO , -1.260E+00, 9.898E+00, 1.554E+01,, -0.081
 C,U-235 ,NO , 8.067E+00, 2.591E+01, 3.642E+01,, 0.222
 C,AM-241 ,NO , 2.169E+01, 1.765E+01, 2.581E+01,, 0.840

Sec. Review: Analyst:  LIMS: 

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VAX/VMS Teledyne Brown Eng. Laboratory Gamma Report: 14-JUN-2006 00:11:36.10
 TBE15 P-10635B HpGe ***** Aquisition Date/Time: 13-JUN-2006 15:52:28.90

LIMS No., Customer Name, Client ID: WG L28851-15 DRESDEN

| | | | |
|---------------|-----------------|---------------|-----------------------|
| Sample ID | : 15L28851-15 | Smple Date: | 31-MAY-2006 10:25:00. |
| Sample Type | : WG | Geometry | : 1535L090104 |
| Quantity | : 3.31770E+00 L | BKGFILE | : 15BG060306MT |
| Start Channel | : 40 | Energy Tol | : 1.50000 |
| End Channel | : 4090 | Pk Srch Sens: | 5.00000 |
| MDA Constant | : 0.00 | Library Used: | LIBD |
| | | Real Time | : 0 07:25:36.43 |
| | | Live time | : 0 07:25:33.74 |

| Pk | It | Energy | Area | Bkgnd | FWHM | Channel | %Eff | Cts/Sec | %Err | Fit |
|----|----|---------|------|-------|------|---------|----------|----------|------|----------|
| 1 | 1 | 139.73 | 151 | 740 | 1.36 | 267.74 | 1.48E+00 | 5.66E-03 | 33.4 | 5.36E-01 |
| 2 | 1 | 197.80 | 138 | 523 | 1.52 | 384.52 | 1.37E+00 | 5.17E-03 | 30.2 | 1.64E+00 |
| 3 | 1 | 350.68* | 91 | 299 | 2.45 | 691.91 | 9.18E-01 | 3.42E-03 | 42.6 | 8.30E-01 |
| 4 | 1 | 594.79 | 123 | 163 | 0.78 | 1182.64 | 5.98E-01 | 4.61E-03 | 21.7 | 1.77E+01 |
| 5 | 1 | 608.11 | 145 | 179 | 3.04 | 1209.41 | 5.87E-01 | 5.41E-03 | 22.9 | 2.20E+00 |
| 6 | 1 | 1457.78 | 170 | 58 | 2.22 | 2916.14 | 2.91E-01 | 6.36E-03 | 13.2 | 2.21E+00 |
| 7 | 1 | 1761.52 | 32 | 39 | 2.17 | 3525.80 | 2.54E-01 | 1.19E-03 | 44.7 | 1.32E+00 |

Flag: "*" = Peak area was modified by background subtraction

Nuclide Line Activity Report

Flag: "*" = Keyline

Summary of Nuclide Activity

Page : 2

Sample ID : 15L28851-15

Acquisition date : 13-JUN-2006 15:52:28

Total number of lines in spectrum

7

Number of unidentified lines

7

Number of lines tentatively identified by NID 0 0.00%

**** There are no nuclides meeting summary criteria ****

Flags: "K" = Keyline not found

"M" = Manually accepted

"E" = Manually edited

"A" = Nuclide specific abn. limit

Unidentified Energy Lines
Sample ID : 15L28851-15

Page : 3
Acquisition date : 13-JUN-2006 15:52:28

| It | Energy | Area | Bkgnd | FWHM | Channel | Left | Pw | Cts/Sec | %Err | %Eff | Flags |
|----|---------|------|-------|------|---------|------|----|----------|------|----------|-------|
| 1 | 139.73 | 151 | 740 | 1.36 | 267.74 | 263 | 9 | 5.66E-03 | 66.7 | 1.48E+00 | |
| 1 | 197.80 | 138 | 523 | 1.52 | 384.52 | 381 | 8 | 5.17E-03 | 60.4 | 1.37E+00 | |
| 1 | 350.68 | 91 | 299 | 2.45 | 691.91 | 687 | 11 | 3.42E-03 | 85.3 | 9.18E-01 | |
| 1 | 594.79 | 123 | 163 | 0.78 | 1182.64 | 1178 | 11 | 4.61E-03 | 43.4 | 5.98E-01 | |
| 1 | 608.11 | 145 | 179 | 3.04 | 1209.41 | 1202 | 17 | 5.41E-03 | 45.8 | 5.87E-01 | |
| 1 | 1457.78 | 170 | 58 | 2.22 | 2916.14 | 2907 | 18 | 6.36E-03 | 26.4 | 2.91E-01 | |
| 1 | 1761.52 | 32 | 39 | 2.17 | 3525.80 | 3517 | 14 | 1.19E-03 | 89.3 | 2.54E-01 | |

Flags: "T" = Tentatively associated

Summary of Nuclide Activity

| | | |
|---|---|-------|
| Total number of lines in spectrum | 7 | |
| Number of unidentified lines | 7 | |
| Number of lines tentatively identified by NID | 0 | 0.00% |

**** There are no nuclides meeting summary criteria ****

Flags: "K" = Keyline not found "M" = Manually accepted
 "E" = Manually edited "A" = Nuclide specific abn. limit

Interference Report

No interference correction performed

Combined Activity-MDA Report

---- Non-Identified Nuclides ----

| Nuclide | Key-Line Activity (pCi/L) | K.L. Ided | Act error | MDA (pCi/L) | MDA error | Act/MDA |
|---------|---------------------------------|--------------|-----------|---------------------|-----------|---------|
| BE-7 | 8.712E+00 | | 2.518E+01 | 4.242E+01 | 0.000E+00 | 0.205 |
| NA-24 | -2.450E+00 | | 4.063E+00 | Half-Life too short | | |
| K-40 | 1.201E+02 | | 4.419E+01 | 7.284E+01 | 0.000E+00 | 1.648 |
| CR-51 | -2.686E+01 | | 2.881E+01 | 4.631E+01 | 0.000E+00 | -0.580 |
| MN-54 | 2.723E-02 | | 2.568E+00 | 4.231E+00 | 0.000E+00 | 0.006 |
| CO-57 | -2.023E+00 | | 2.633E+00 | 3.997E+00 | 0.000E+00 | -0.506 |
| CO-58 | -2.308E+00 | | 2.937E+00 | 4.651E+00 | 0.000E+00 | -0.496 |
| FE-59 | 4.027E-01 | | 5.838E+00 | 9.692E+00 | 0.000E+00 | 0.042 |
| CO-60 | 4.305E-01 | | 2.824E+00 | 4.651E+00 | 0.000E+00 | 0.093 |
| ZN-65 | 8.650E+00 | | 5.702E+00 | 1.023E+01 | 0.000E+00 | 0.845 |
| SE-75 | -3.566E-02 | | 3.555E+00 | 5.742E+00 | 0.000E+00 | -0.006 |
| SR-85 | 3.830E+00 | | 3.406E+00 | 5.828E+00 | 0.000E+00 | 0.657 |
| Y-88 | -9.777E-01 | | 3.140E+00 | 5.062E+00 | 0.000E+00 | -0.193 |
| NB-94 | -5.476E-01 | | 2.582E+00 | 4.148E+00 | 0.000E+00 | -0.132 |
| NB-95 | 9.664E-01 | | 2.930E+00 | 4.930E+00 | 0.000E+00 | 0.196 |
| ZR-95 | 8.033E-01 | | 5.312E+00 | 8.870E+00 | 0.000E+00 | 0.091 |
| MO-99 | -7.018E+01 | | 5.753E+02 | 9.498E+02 | 0.000E+00 | -0.074 |
| RU-103 | -4.183E-01 | | 3.204E+00 | 5.292E+00 | 0.000E+00 | -0.079 |
| RU-106 | 1.267E+01 | | 2.411E+01 | 4.042E+01 | 0.000E+00 | 0.314 |
| AG-110m | 1.195E+00 | | 2.694E+00 | 4.482E+00 | 0.000E+00 | 0.267 |
| SN-113 | -2.768E+00 | | 3.540E+00 | 5.627E+00 | 0.000E+00 | -0.492 |

| | | | | | |
|---------|------------|-----------|-----------|-----------|--------|
| SB-124 | 4.618E+00 | 5.863E+00 | 4.892E+00 | 0.000E+00 | 0.944 |
| SB-125 | -2.480E+00 | 7.509E+00 | 1.206E+01 | 0.000E+00 | -0.206 |
| TE-129M | 1.306E+01 | 3.867E+01 | 6.343E+01 | 0.000E+00 | 0.206 |
| I-131 | 1.339E+00 | 8.048E+00 | 1.329E+01 | 0.000E+00 | 0.101 |
| BA-133 | -2.322E-01 | 4.076E+00 | 5.670E+00 | 0.000E+00 | -0.041 |
| CS-134 | 3.558E+00 | 3.988E+00 | 4.664E+00 | 0.000E+00 | 0.763 |
| CS-136 | 2.638E+00 | 5.053E+00 | 8.558E+00 | 0.000E+00 | 0.308 |
| CS-137 | -3.053E+00 | 2.939E+00 | 4.554E+00 | 0.000E+00 | -0.670 |
| CE-139 | -7.673E-01 | 2.506E+00 | 4.115E+00 | 0.000E+00 | -0.186 |
| BA-140 | -5.913E+00 | 1.841E+01 | 3.001E+01 | 0.000E+00 | -0.197 |
| LA-140 | -4.147E+00 | 6.361E+00 | 9.907E+00 | 0.000E+00 | -0.419 |
| CE-141 | 3.061E+00 | 6.016E+00 | 8.693E+00 | 0.000E+00 | 0.352 |
| CE-144 | 1.102E+01 | 2.188E+01 | 3.174E+01 | 0.000E+00 | 0.347 |
| EU-152 | -8.242E+00 | 9.335E+00 | 1.250E+01 | 0.000E+00 | -0.659 |
| EU-154 | -3.888E+00 | 5.369E+00 | 8.153E+00 | 0.000E+00 | -0.477 |
| RA-226 | -4.892E+01 | 6.739E+01 | 1.012E+02 | 0.000E+00 | -0.483 |
| AC-228 | 6.582E+00 | 9.712E+00 | 1.647E+01 | 0.000E+00 | 0.400 |
| TH-228 | 3.064E+00 | 5.253E+00 | 8.017E+00 | 0.000E+00 | 0.382 |
| TH-232 | 6.553E+00 | 9.669E+00 | 1.640E+01 | 0.000E+00 | 0.400 |
| U-235 | 2.729E+01 | 2.089E+01 | 3.092E+01 | 0.000E+00 | 0.883 |
| U-238 | 9.526E+01 | 3.051E+02 | 5.047E+02 | 0.000E+00 | 0.189 |
| AM-241 | -5.290E+01 | 2.938E+01 | 4.678E+01 | 0.000E+00 | -1.131 |

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A,15L28851-15      ,06/14/2006 00:11,05/31/2006 10:25,    3.318E+00,WG L28851-15 D
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C,BE-7      ,NO ,    8.712E+00,    2.518E+01,    4.242E+01,,    0.205
C,K-40      ,NO ,    1.201E+02,    4.419E+01,    7.284E+01,,    1.648
C,CR-51     ,NO ,   -2.686E+01,    2.881E+01,    4.631E+01,,   -0.580
C,MN-54     ,NO ,    2.723E-02,    2.568E+00,    4.231E+00,,    0.006
C,CO-57     ,NO ,   -2.023E+00,    2.633E+00,    3.997E+00,,   -0.506
C,CO-58     ,NO ,   -2.308E+00,    2.937E+00,    4.651E+00,,   -0.496
C,FE-59     ,NO ,    4.027E-01,    5.838E+00,    9.692E+00,,    0.042
C,CO-60     ,NO ,    4.305E-01,    2.824E+00,    4.651E+00,,    0.093
C,ZN-65     ,NO ,    8.650E+00,    5.702E+00,    1.023E+01,,    0.845
C,SE-75     ,NO ,   -3.566E-02,    3.555E+00,    5.742E+00,,   -0.006
C,SR-85     ,NO ,    3.830E+00,    3.406E+00,    5.828E+00,,    0.657
C,Y-88      ,NO ,   -9.777E-01,    3.140E+00,    5.062E+00,,   -0.193
C,NB-94     ,NO ,   -5.476E-01,    2.582E+00,    4.148E+00,,   -0.132
C,NB-95     ,NO ,    9.664E-01,    2.930E+00,    4.930E+00,,    0.196
C,ZR-95     ,NO ,    8.033E-01,    5.312E+00,    8.870E+00,,    0.091
C,MO-99     ,NO ,   -7.018E+01,    5.753E+02,    9.498E+02,,   -0.074
C,RU-103    ,NO ,   -4.183E-01,    3.204E+00,    5.292E+00,,   -0.079
C,RU-106    ,NO ,    1.267E+01,    2.411E+01,    4.042E+01,,    0.314
C,AG-110m   ,NO ,    1.195E+00,    2.694E+00,    4.482E+00,,    0.267
C,SN-113    ,NO ,   -2.768E+00,    3.540E+00,    5.627E+00,,   -0.492
C,SB-124    ,NO ,    4.618E+00,    5.863E+00,    4.892E+00,,    0.944
C,SB-125    ,NO ,   -2.480E+00,    7.509E+00,    1.206E+01,,   -0.206
C,TE-129M   ,NO ,    1.306E+01,    3.867E+01,    6.343E+01,,    0.206
C,I-131     ,NO ,    1.339E+00,    8.048E+00,    1.329E+01,,    0.101
C,BA-133    ,NO ,   -2.322E-01,    4.076E+00,    5.670E+00,,   -0.041
C,CS-134    ,NO ,    3.558E+00,    3.988E+00,    4.664E+00,,    0.763
C,CS-136    ,NO ,    2.638E+00,    5.053E+00,    8.558E+00,,    0.308
C,CS-137    ,NO ,   -3.053E+00,    2.939E+00,    4.554E+00,,   -0.670
C,CE-139    ,NO ,   -7.673E-01,    2.506E+00,    4.115E+00,,   -0.186
C,BA-140    ,NO ,   -5.913E+00,    1.841E+01,    3.001E+01,,   -0.197
C,LA-140    ,NO ,   -4.147E+00,    6.361E+00,    9.907E+00,,   -0.419
C,CE-141    ,NO ,    3.061E+00,    6.016E+00,    8.693E+00,,    0.352
C,CE-144    ,NO ,    1.102E+01,    2.188E+01,    3.174E+01,,    0.347
C,EU-152    ,NO ,   -8.242E+00,    9.335E+00,    1.250E+01,,   -0.659
C,EU-154    ,NO ,   -3.888E+00,    5.369E+00,    8.153E+00,,   -0.477
C,RA-226    ,NO ,   -4.892E+01,    6.739E+01,    1.012E+02,,   -0.483
C,AC-228    ,NO ,    6.582E+00,    9.712E+00,    1.647E+01,,    0.400
C,TH-228    ,NO ,    3.064E+00,    5.253E+00,    8.017E+00,,    0.382
C,TH-232    ,NO ,    6.553E+00,    9.669E+00,    1.640E+01,,    0.400
C,U-235     ,NO ,    2.729E+01,    2.089E+01,    3.092E+01,,    0.883
C,U-238     ,NO ,    9.526E+01,    3.051E+02,    5.047E+02,,    0.189
C,AM-241    ,NO ,   -5.290E+01,    2.938E+01,    4.678E+01,,   -1.131

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Sec. Review: Analyst LIMS:

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VAX/VMS Teledyne Brown Eng. Laboratory Gamma Report: 13-JUN-2006 23:19:11.81

TBE23 03017322 HpGe ***** Aquisition Date/Time: 13-JUN-2006 18:37:19.67

LIMS No., Customer Name, Client ID: WG L28851-16 DRESDEN

| | | | |
|---------------|-----------------|---------------|-----------------------|
| Sample ID | : 23L28851-16 | Smple Date: | 31-MAY-2006 11:45:00. |
| Sample Type | : WG | Geometry | : 233L082404 |
| Quantity | : 3.23880E+00 L | BKGFILE | : 23BG060306MT |
| Start Channel | : 50 | Energy Tol | : 1.50000 |
| End Channel | : 4090 | Real Time | : 0 04:41:40.17 |
| MDA Constant | : 0.00 | Pk Srch Sens: | 5.00000 |
| | | Live time | : 0 04:41:28.95 |
| | | Library Used: | LIBD |

| Pk | It | Energy | Area | Bkgnd | FWHM | Channel | %Eff | Cts/Sec | %Err | Fit |
|----|----|---------|------|-------|------|---------|----------|----------|-------|----------|
| 1 | 6 | 33.80* | 93 | 19 | 1.20 | 67.92 | 8.27E-02 | 5.53E-03 | 22.4 | 4.46E+00 |
| 2 | 6 | 35.34* | 16 | 156 | 1.94 | 71.01 | 1.07E-01 | 9.34E-04 | 262.6 | |
| 3 | 6 | 38.30* | 52 | 349 | 2.14 | 76.91 | 1.66E-01 | 3.11E-03 | 84.7 | |
| 4 | 0 | 92.72* | 40 | 986 | 1.47 | 185.68 | 1.94E+00 | 2.35E-03 | 170.9 | |
| 5 | 0 | 139.50* | 75 | 595 | 0.96 | 279.16 | 2.32E+00 | 4.47E-03 | 61.1 | |
| 6 | 0 | 185.53* | 11 | 598 | 1.21 | 371.17 | 2.18E+00 | 6.62E-04 | 473.5 | |
| 7 | 0 | 198.36* | 79 | 447 | 1.35 | 396.80 | 2.11E+00 | 4.67E-03 | 51.5 | |
| 8 | 0 | 238.21* | 13 | 435 | 1.01 | 476.46 | 1.90E+00 | 7.82E-04 | 327.9 | |
| 9 | 0 | 351.77* | 36 | 294 | 1.54 | 703.44 | 1.43E+00 | 2.13E-03 | 109.9 | |
| 10 | 0 | 583.88* | 7 | 114 | 1.36 | 1167.46 | 9.70E-01 | 4.06E-04 | 342.8 | |
| 11 | 0 | 596.01 | 101 | 93 | 1.73 | 1191.71 | 9.56E-01 | 6.01E-03 | 20.9 | |
| 12 | 0 | 1103.92 | 26 | 32 | 1.42 | 2207.36 | 6.22E-01 | 1.54E-03 | 48.2 | |
| 13 | 0 | 1306.63 | 14 | 8 | 0.96 | 2612.82 | 5.53E-01 | 8.49E-04 | 40.2 | |

Flag: "*" = Peak area was modified by background subtraction

Nuclide Line Activity Report

Nuclide Type: natural

| Nuclide | Energy | Area | %Abn | %Eff | Uncorrected pCi/L | Decay Corr pCi/L | 2-Sigma %Error |
|---------|--------|-------|--------|-----------|----------------------|---------------------|-------------------|
| RA-226 | 186.21 | 11 | 3.28* | 2.175E+00 | 7.745E+00 | 7.746E+00 | 947.06 |
| TH-228 | 238.63 | 13 | 44.60* | 1.902E+00 | 7.692E-01 | 7.794E-01 | 655.70 |
| | 240.98 | ----- | 3.95 | 1.888E+00 | ----- | Line Not Found | ----- |

Flag: "*" = Keyline

Summary of Nuclide Activity

Page : 2

Sample ID : 23L28851-16

Acquisition date : 13-JUN-2006 18:37:19

| | | |
|---|----|--------|
| Total number of lines in spectrum | 13 | |
| Number of unidentified lines | 10 | |
| Number of lines tentatively identified by NID | 3 | 23.08% |

Nuclide Type : natural

| Nuclide | Hlife | Decay | Uncorrected pCi/L | Decay Corr pCi/L | Decay Corr 2-Sigma Error | 2-Sigma %Error | Flags |
|------------------|----------|-------|----------------------|---------------------|-----------------------------|-------------------|-------|
| RA-226 | 1600.00Y | 1.00 | 7.745E+00 | 7.746E+00 | 73.35E+00 | 947.06 | |
| TH-228 | 1.91Y | 1.01 | 7.692E-01 | 7.794E-01 | 51.11E-01 | 655.70 | |
| Total Activity : | | | 8.515E+00 | 8.525E+00 | | | |

| | | |
|------------------------|-----------|-----------|
| Grand Total Activity : | 8.515E+00 | 8.525E+00 |
|------------------------|-----------|-----------|

Flags: "K" = Keyline not found
 "E" = Manually edited

"M" = Manually accepted
 "A" = Nuclide specific abn. limit

Unidentified Energy Lines
Sample ID : 23L28851-16

Page : 3
Acquisition date : 13-JUN-2006 18:37:19

| It | Energy | Area | Bkgnd | FWHM | Channel | Left | Pw | Cts/Sec | %Err | %Eff | Flags |
|----|---------|------|-------|------|---------|------|----|----------|------|----------|-------|
| 6 | 33.80 | 93 | 19 | 1.20 | 67.92 | 65 | 22 | 5.53E-03 | 44.8 | 8.27E-02 | |
| 6 | 35.34 | 16 | 156 | 1.94 | 71.01 | 65 | 22 | 9.34E-04 | **** | 1.07E-01 | |
| 6 | 38.30 | 52 | 349 | 2.14 | 76.91 | 65 | 22 | 3.11E-03 | **** | 1.66E-01 | |
| 0 | 92.72 | 40 | 986 | 1.47 | 185.68 | 180 | 12 | 2.35E-03 | **** | 1.94E+00 | |
| 0 | 139.50 | 75 | 595 | 0.96 | 279.16 | 276 | 8 | 4.47E-03 | **** | 2.32E+00 | |
| 0 | 198.36 | 79 | 447 | 1.35 | 396.80 | 393 | 8 | 4.67E-03 | **** | 2.11E+00 | |
| 0 | 351.77 | 36 | 294 | 1.54 | 703.44 | 697 | 14 | 2.13E-03 | **** | 1.43E+00 | |
| 0 | 583.88 | 7 | 114 | 1.36 | 1167.46 | 1160 | 11 | 4.06E-04 | **** | 9.70E-01 | T |
| 0 | 596.01 | 101 | 93 | 1.73 | 1191.71 | 1186 | 11 | 6.01E-03 | 41.9 | 9.56E-01 | |
| 0 | 1103.92 | 26 | 32 | 1.42 | 2207.36 | 2200 | 12 | 1.54E-03 | 96.4 | 6.22E-01 | |
| 0 | 1306.63 | 14 | 8 | 0.96 | 2612.82 | 2610 | 6 | 8.49E-04 | 80.4 | 5.53E-01 | |

Flags: "T" = Tentatively associated

Summary of Nuclide Activity

| | | |
|---|----|--------|
| Total number of lines in spectrum | 13 | |
| Number of unidentified lines | 10 | |
| Number of lines tentatively identified by NID | 3 | 23.08% |

Nuclide Type : natural

| Nuclide | Hlife | Decay | Wtd Mean Uncorrected pCi/L | Wtd Mean Decay Corr pCi/L | Decay Corr 2-Sigma Error | 2-Sigma %Error | Flags |
|------------------|----------|-------|----------------------------------|---------------------------------|-----------------------------|-------------------|-------|
| RA-226 | 1600.00Y | 1.00 | 7.745E+00 | 7.746E+00 | 73.35E+00 | 947.06 | |
| TH-228 | 1.91Y | 1.01 | 7.692E-01 | 7.794E-01 | 51.11E-01 | 655.70 | |
| Total Activity : | | | 8.515E+00 | 8.525E+00 | | | |

Grand Total Activity : 8.515E+00 8.525E+00

Flags: "K" = Keyline not found "M" = Manually accepted
"E" = Manually edited "A" = Nuclide specific abn. limit

Interference Report

No interference correction performed

Combined Activity-MDA Report

---- Identified Nuclides ----

| Nuclide | Activity (pCi/L) | Act error | MDA (pCi/L) | MDA error | Act/MDA |
|---------|---------------------|-----------|----------------|-----------|---------|
| RA-226 | 7.746E+00 | 7.335E+01 | 1.018E+02 | 0.000E+00 | 0.076 |
| TH-228 | 7.794E-01 | 5.111E+00 | 7.358E+00 | 0.000E+00 | 0.106 |

---- Non-Identified Nuclides ----

| Key-Line Activity | K.L. | Act error | MDA | MDA error | Act/MDA |
|----------------------|------|-----------|-----|-----------|---------|
|----------------------|------|-----------|-----|-----------|---------|

| Nuclide | (pCi/L) | Ided | (pCi/L) | | |
|---------|------------|-----------|---------------------|-----------|--------|
| BE-7 | 2.124E+01 | 2.318E+01 | 4.071E+01 | 0.000E+00 | 0.522 |
| NA-24 | 6.177E-01 | 3.040E+00 | Half-Life too short | | |
| K-40 | -4.177E+01 | 3.446E+01 | 6.545E+01 | 0.000E+00 | -0.638 |
| CR-51 | -1.027E+01 | 2.858E+01 | 4.804E+01 | 0.000E+00 | -0.214 |
| MN-54 | 5.464E-01 | 2.390E+00 | 4.152E+00 | 0.000E+00 | 0.132 |
| CO-57 | -1.759E+00 | 2.615E+00 | 4.331E+00 | 0.000E+00 | -0.406 |
| CO-58 | -1.679E+00 | 2.518E+00 | 4.166E+00 | 0.000E+00 | -0.403 |
| FE-59 | -6.468E-01 | 6.428E+00 | 9.348E+00 | 0.000E+00 | -0.069 |
| CO-60 | -1.357E+00 | 2.223E+00 | 3.704E+00 | 0.000E+00 | -0.366 |
| ZN-65 | 9.423E+00 | 4.888E+00 | 9.299E+00 | 0.000E+00 | 1.013 |
| SE-75 | -9.808E-01 | 3.493E+00 | 5.912E+00 | 0.000E+00 | -0.166 |
| SR-85 | 1.405E+01 | 3.050E+00 | 5.889E+00 | 0.000E+00 | 2.386 |
| Y-88 | 3.074E+00 | 2.677E+00 | 5.215E+00 | 0.000E+00 | 0.589 |
| NB-94 | 2.794E-01 | 2.232E+00 | 3.867E+00 | 0.000E+00 | 0.072 |
| NB-95 | 1.202E+00 | 2.506E+00 | 4.428E+00 | 0.000E+00 | 0.271 |
| ZR-95 | -1.472E+00 | 4.576E+00 | 7.743E+00 | 0.000E+00 | -0.190 |
| MO-99 | -1.796E+02 | 4.999E+02 | 8.446E+02 | 0.000E+00 | -0.213 |
| RU-103 | 2.901E+00 | 2.934E+00 | 5.167E+00 | 0.000E+00 | 0.561 |
| RU-106 | -3.140E+00 | 2.142E+01 | 3.680E+01 | 0.000E+00 | -0.085 |
| AG-110m | -1.253E+00 | 2.351E+00 | 3.952E+00 | 0.000E+00 | -0.317 |
| SN-113 | -1.453E+00 | 3.232E+00 | 5.393E+00 | 0.000E+00 | -0.269 |
| SB-124 | -6.792E+00 | 3.445E+00 | 4.365E+00 | 0.000E+00 | -1.556 |
| SB-125 | -2.966E+00 | 7.062E+00 | 1.176E+01 | 0.000E+00 | -0.252 |
| TE-129M | 4.181E+00 | 3.562E+01 | 6.051E+01 | 0.000E+00 | 0.069 |
| I-131 | -6.424E-01 | 7.641E+00 | 1.294E+01 | 0.000E+00 | -0.050 |
| BA-133 | 2.409E+00 | 3.846E+00 | 5.705E+00 | 0.000E+00 | 0.422 |
| CS-134 | 2.596E+00 | 2.663E+00 | 4.225E+00 | 0.000E+00 | 0.615 |
| CS-136 | -9.797E-02 | 4.298E+00 | 7.396E+00 | 0.000E+00 | -0.013 |
| CS-137 | 1.137E+00 | 2.525E+00 | 4.451E+00 | 0.000E+00 | 0.255 |
| CE-139 | -5.212E-01 | 2.678E+00 | 4.449E+00 | 0.000E+00 | -0.117 |
| BA-140 | 6.467E+00 | 1.636E+01 | 2.820E+01 | 0.000E+00 | 0.229 |
| LA-140 | -1.655E+00 | 5.307E+00 | 9.193E+00 | 0.000E+00 | -0.180 |
| CE-141 | 5.945E+00 | 6.696E+00 | 9.757E+00 | 0.000E+00 | 0.609 |
| CE-144 | 2.221E+00 | 2.363E+01 | 3.370E+01 | 0.000E+00 | 0.066 |
| EU-152 | 1.887E+00 | 8.682E+00 | 1.263E+01 | 0.000E+00 | 0.149 |
| EU-154 | -3.002E+00 | 5.352E+00 | 8.881E+00 | 0.000E+00 | -0.338 |
| AC-228 | 4.050E+00 | 9.464E+00 | 1.522E+01 | 0.000E+00 | 0.266 |
| TH-232 | 4.033E+00 | 9.423E+00 | 1.515E+01 | 0.000E+00 | 0.266 |
| U-235 | 2.289E+01 | 2.443E+01 | 3.482E+01 | 0.000E+00 | 0.657 |
| U-238 | 4.198E+01 | 2.499E+02 | 4.197E+02 | 0.000E+00 | 0.100 |
| AM-241 | -1.446E+01 | 1.491E+01 | 2.403E+01 | 0.000E+00 | -0.602 |

A,23L28851-16 ,06/13/2006 23:19,05/31/2006 11:45, 3.239E+00,WG L28851-16 D
 B,23L28851-16 ,LIBD ,06/01/2006 10:14,233L082404
 C,RA-226 ,YES, 7.746E+00, 7.335E+01, 1.018E+02,, 0.076
 C,TH-228 ,YES, 7.794E-01, 5.111E+00, 7.358E+00,, 0.106
 C,BE-7 ,NO , 2.124E+01, 2.318E+01, 4.071E+01,, 0.522
 C,K-40 ,NO , -4.177E+01, 3.446E+01, 6.545E+01,, -0.638
 C,CR-51 ,NO , -1.027E+01, 2.858E+01, 4.804E+01,, -0.214
 C,MN-54 ,NO , 5.464E-01, 2.390E+00, 4.152E+00,, 0.132
 C,CO-57 ,NO , -1.759E+00, 2.615E+00, 4.331E+00,, -0.406
 C,CO-58 ,NO , -1.679E+00, 2.518E+00, 4.166E+00,, -0.403
 C,FE-59 ,NO , -6.468E-01, 6.428E+00, 9.348E+00,, -0.069
 C,CO-60 ,NO , -1.357E+00, 2.223E+00, 3.704E+00,, -0.366
 C,ZN-65 ,NO , 9.423E+00, 4.888E+00, 9.299E+00,, 1.013
 C,SE-75 ,NO , -9.808E-01, 3.493E+00, 5.912E+00,, -0.166
 C,SR-85 ,NO , 1.405E+01, 3.050E+00, 5.889E+00,, 2.386
 C,Y-88 ,NO , 3.074E+00, 2.677E+00, 5.215E+00,, 0.589
 C,NB-94 ,NO , 2.794E-01, 2.232E+00, 3.867E+00,, 0.072
 C,NB-95 ,NO , 1.202E+00, 2.506E+00, 4.428E+00,, 0.271
 C,ZR-95 ,NO , -1.472E+00, 4.576E+00, 7.743E+00,, -0.190
 C,MO-99 ,NO , -1.796E+02, 4.999E+02, 8.446E+02,, -0.213
 C,RU-103 ,NO , 2.901E+00, 2.934E+00, 5.167E+00,, 0.561
 C,RU-106 ,NO , -3.140E+00, 2.142E+01, 3.680E+01,, -0.085
 C,AG-110m ,NO , -1.253E+00, 2.351E+00, 3.952E+00,, -0.317
 C,SN-113 ,NO , -1.453E+00, 3.232E+00, 5.393E+00,, -0.269
 C,SB-124 ,NO , -6.792E+00, 3.445E+00, 4.365E+00,, -1.556
 C,SB-125 ,NO , -2.966E+00, 7.062E+00, 1.176E+01,, -0.252
 C,TE-129M ,NO , 4.181E+00, 3.562E+01, 6.051E+01,, 0.069
 C,I-131 ,NO , -6.424E-01, 7.641E+00, 1.294E+01,, -0.050
 C,BA-133 ,NO , 2.409E+00, 3.846E+00, 5.705E+00,, 0.422
 C,CS-134 ,NO , 2.596E+00, 2.663E+00, 4.225E+00,, 0.615
 C,CS-136 ,NO , -9.797E-02, 4.298E+00, 7.396E+00,, -0.013
 C,CS-137 ,NO , 1.137E+00, 2.525E+00, 4.451E+00,, 0.255
 C,CE-139 ,NO , -5.212E-01, 2.678E+00, 4.449E+00,, -0.117
 C,BA-140 ,NO , 6.467E+00, 1.636E+01, 2.820E+01,, 0.229
 C,LA-140 ,NO , -1.655E+00, 5.307E+00, 9.193E+00,, -0.180
 C,CE-141 ,NO , 5.945E+00, 6.696E+00, 9.757E+00,, 0.609
 C,CE-144 ,NO , 2.221E+00, 2.363E+01, 3.370E+01,, 0.066
 C,EU-152 ,NO , 1.887E+00, 8.682E+00, 1.263E+01,, 0.149
 C,EU-154 ,NO , -3.002E+00, 5.352E+00, 8.881E+00,, -0.338
 C,AC-228 ,NO , 4.050E+00, 9.464E+00, 1.522E+01,, 0.266
 C,TH-232 ,NO , 4.033E+00, 9.423E+00, 1.515E+01,, 0.266
 C,U-235 ,NO , 2.289E+01, 2.443E+01, 3.482E+01,, 0.657
 C,U-238 ,NO , 4.198E+01, 2.499E+02, 4.197E+02,, 0.100
 C,AM-241 ,NO , -1.446E+01, 1.491E+01, 2.403E+01,, -0.602

Sec. Review: Analyst: ALIMS ✓

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VAX/VMS Teledyne Brown Eng. Laboratory Gamma Report: 14-JUN-2006 05:42:04.06

TBE04 P-40312B HpGe ***** Aquisition Date/Time: 13-JUN-2006 23:41:56.69

LIMS No., Customer Name, Client ID: WG L28851-17 EX DRES

Sample ID : 04L28851-17 Smple Date: 31-MAY-2006 14:00:00.

Sample Type : WG Geometry : 043L082004

Quantity : 2.98580E+00 L BKGFILE : 04BG060306MT

Start Channel : 90 Energy Tol : 1.00000 Real Time : 0 06:00:03.64

End Channel : 4090 Pk Srch Sens: 5.00000 Live time : 0 06:00:00.00

MDA Constant : 0.00 Library Used: LIBD

| Pk | It | Energy | Area | Bkgnd | FWHM | Channel | %Eff | Cts/Sec | %Err | Fit |
|----|----|----------|------|-------|------|---------|----------|----------|-------|----------|
| 1 | 1 | 66.01* | 186 | 525 | 1.45 | 132.67 | 6.52E-01 | 8.61E-03 | 24.0 | 3.97E+00 |
| 2 | 1 | 92.70* | 38 | 529 | 1.51 | 186.03 | 1.54E+00 | 1.78E-03 | 123.9 | 1.55E+00 |
| 3 | 1 | 139.36 | 104 | 585 | 0.82 | 279.32 | 2.04E+00 | 4.80E-03 | 43.7 | 9.07E+00 |
| 4 | 1 | 198.43* | 100 | 369 | 1.26 | 397.40 | 1.86E+00 | 4.62E-03 | 42.2 | 9.45E-01 |
| 5 | 1 | 238.45* | 4 | 365 | 1.48 | 477.39 | 1.68E+00 | 1.88E-04 | 965.6 | 1.90E+00 |
| 6 | 1 | 352.09* | 38 | 230 | 1.05 | 704.57 | 1.28E+00 | 1.74E-03 | 84.8 | 9.47E-01 |
| 7 | 1 | 583.27* | 36 | 92 | 1.73 | 1166.76 | 8.77E-01 | 1.64E-03 | 61.8 | 1.22E+00 |
| 8 | 1 | 595.71 | 85 | 165 | 1.68 | 1191.64 | 8.63E-01 | 3.93E-03 | 33.2 | 1.72E+00 |
| 9 | 1 | 609.54* | 57 | 115 | 1.41 | 1219.27 | 8.48E-01 | 2.65E-03 | 51.2 | 2.04E+00 |
| 10 | 1 | 1460.64* | 26 | 27 | 2.61 | 2921.14 | 4.30E-01 | 1.18E-03 | 74.3 | 1.08E+00 |

Flag: "*" = Peak area was modified by background subtraction

Nuclide Line Activity Report

Nuclide Type: natural

| Nuclide | Energy | Area | %Abn | %Eff | Uncorrected pCi/L | Decay Corr pCi/L | 2-Sigma %Error |
|---------|---------|-------|--------|-----------|----------------------|---------------------|-------------------|
| K-40 | 1460.81 | 26 | 10.67* | 4.296E-01 | 2.335E+01 | 2.335E+01 | 148.70 |
| TH-228 | 238.63 | 4 | 44.60* | 1.680E+00 | 2.275E-01 | 2.306E-01 | 1931.25 |
| | 240.98 | ----- | 3.95 | 1.669E+00 | ----- | Line Not Found | ----- |

Flag: "*" = Keyline

Summary of Nuclide Activity

Page : 2

Sample ID : 04L28851-17

Acquisition date : 13-JUN-2006 23:41:56

| | | |
|---|----|--------|
| Total number of lines in spectrum | 10 | |
| Number of unidentified lines | 7 | |
| Number of lines tentatively identified by NID | 3 | 30.00% |

Nuclide Type : natural

| Nuclide | Hlife | Decay | Uncorrected pCi/L | Decay Corr pCi/L | Decay Corr 2-Sigma Error | 2-Sigma %Error | Flags |
|------------------|-----------|-------|----------------------|---------------------|-----------------------------|-------------------|-------|
| K-40 | 1.28E+09Y | 1.00 | 2.335E+01 | 2.335E+01 | 3.471E+01 | 148.70 | |
| TH-228 | 1.91Y | 1.01 | 2.275E-01 | 2.306E-01 | 44.53E-01 | 1931.25 | |
| | | | ----- | ----- | | | |
| Total Activity : | | | 2.357E+01 | 2.358E+01 | | | |

| | | |
|------------------------|-----------|-----------|
| Grand Total Activity : | 2.357E+01 | 2.358E+01 |
|------------------------|-----------|-----------|

Flags: "K" = Keyline not found
 "E" = Manually edited

"M" = Manually accepted
 "A" = Nuclide specific abn. limit

Unidentified Energy Lines
Sample ID : 04L28851-17

Page : 3
Acquisition date : 13-JUN-2006 23:41:56

| It | Energy | Area | Bkgnd | FWHM | Channel | Left | Pw | Cts/Sec | %Err | %Eff | Flags |
|----|--------|------|-------|------|---------|------|----|----------|------|----------|-------|
| 1 | 66.01 | 186 | 525 | 1.45 | 132.67 | 130 | 8 | 8.61E-03 | 47.9 | 6.52E-01 | |
| 1 | 92.70 | 38 | 529 | 1.51 | 186.03 | 182 | 9 | 1.78E-03 | **** | 1.54E+00 | |
| 1 | 139.36 | 104 | 585 | 0.82 | 279.32 | 276 | 9 | 4.80E-03 | 87.5 | 2.04E+00 | |
| 1 | 198.43 | 100 | 369 | 1.26 | 397.40 | 393 | 9 | 4.62E-03 | 84.4 | 1.86E+00 | |
| 1 | 352.09 | 38 | 230 | 1.05 | 704.57 | 701 | 9 | 1.74E-03 | **** | 1.28E+00 | |
| 1 | 583.27 | 36 | 92 | 1.73 | 1166.76 | 1162 | 9 | 1.64E-03 | **** | 8.77E-01 | T |
| 1 | 595.71 | 85 | 165 | 1.68 | 1191.64 | 1185 | 13 | 3.93E-03 | 66.3 | 8.63E-01 | |
| 1 | 609.54 | 57 | 115 | 1.41 | 1219.27 | 1213 | 13 | 2.65E-03 | **** | 8.48E-01 | |

Flags: "T" = Tentatively associated

Summary of Nuclide Activity

| | |
|---|---------------|
| Total number of lines in spectrum | 10 |
| Number of unidentified lines | 7 |
| Number of lines tentatively identified by NID | 3 30.00% |

Nuclide Type : natural

| Nuclide | Hlife | Decay | Wtd Mean Uncorrected pCi/L | Wtd Mean Decay Corr pCi/L | Decay Corr 2-Sigma Error | 2-Sigma %Error | Flags |
|------------------|-----------|-------|----------------------------------|---------------------------------|-----------------------------|-------------------|-------|
| K-40 | 1.28E+09Y | 1.00 | 2.335E+01 | 2.335E+01 | 3.471E+01 | 148.70 | |
| TH-228 | 1.91Y | 1.01 | 2.275E-01 | 2.306E-01 | 44.53E-01 | 1931.25 | |
| Total Activity : | | | 2.357E+01 | 2.358E+01 | | | |

Grand Total Activity : 2.357E+01 2.358E+01

Flags: "K" = Keyline not found "M" = Manually accepted
"E" = Manually edited "A" = Nuclide specific abn. limit

Interference Report

No interference correction performed

Combined Activity-MDA Report

---- Identified Nuclides ----

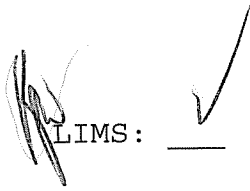
| Nuclide | Activity (pCi/L) | Act error | MDA (pCi/L) | MDA error | Act/MDA |
|---------|---------------------|-----------|----------------|-----------|---------|
| K-40 | 2.335E+01 | 3.471E+01 | 4.244E+01 | 0.000E+00 | 0.550 |
| TH-228 | 2.306E-01 | 4.453E+00 | 6.229E+00 | 0.000E+00 | 0.037 |

---- Non-Identified Nuclides ----

| Nuclide | Key-Line Activity (pCi/L) | K.L. Ided | Act error | MDA (pCi/L) | MDA error | Act/MDA |
|---------|---------------------------------|--------------|-----------|----------------|-----------|---------|
| BE-7 | 5.122E+00 | | 2.082E+01 | 3.482E+01 | 0.000E+00 | 0.147 |

| | | | | |
|---------|------------|-----------|---------------------|------------------|
| NA-24 | 3.286E-01 | 4.309E+00 | Half-Life too short | |
| CR-51 | -9.342E+00 | 2.529E+01 | 4.128E+01 | 0.000E+00 -0.226 |
| MN-54 | -1.189E+00 | 2.362E+00 | 3.725E+00 | 0.000E+00 -0.319 |
| CO-57 | -1.096E+00 | 2.055E+00 | 3.305E+00 | 0.000E+00 -0.332 |
| CO-58 | -1.518E+00 | 2.678E+00 | 4.225E+00 | 0.000E+00 -0.359 |
| FE-59 | 4.610E+00 | 5.255E+00 | 9.040E+00 | 0.000E+00 0.510 |
| CO-60 | 1.149E+00 | 3.037E+00 | 4.815E+00 | 0.000E+00 0.239 |
| ZN-65 | 3.325E+00 | 4.838E+00 | 8.379E+00 | 0.000E+00 0.397 |
| SE-75 | -1.055E+00 | 3.108E+00 | 4.974E+00 | 0.000E+00 -0.212 |
| SR-85 | 2.253E+01 | 3.174E+00 | 6.289E+00 | 0.000E+00 3.582 |
| Y-88 | -1.882E+00 | 2.854E+00 | 4.431E+00 | 0.000E+00 -0.425 |
| NB-94 | 1.978E+00 | 2.236E+00 | 3.842E+00 | 0.000E+00 0.515 |
| NB-95 | 9.556E-01 | 2.588E+00 | 4.319E+00 | 0.000E+00 0.221 |
| ZR-95 | -5.116E+00 | 4.557E+00 | 6.996E+00 | 0.000E+00 -0.731 |
| MO-99 | 3.144E+02 | 5.139E+02 | 8.704E+02 | 0.000E+00 0.361 |
| RU-103 | 3.425E+00 | 2.949E+00 | 5.087E+00 | 0.000E+00 0.673 |
| RU-106 | -1.075E+01 | 2.243E+01 | 3.548E+01 | 0.000E+00 -0.303 |
| AG-110m | 1.782E+00 | 2.280E+00 | 3.920E+00 | 0.000E+00 0.455 |
| SN-113 | -3.903E+00 | 3.109E+00 | 4.808E+00 | 0.000E+00 -0.812 |
| SB-124 | -2.296E+00 | 6.416E+00 | 4.326E+00 | 0.000E+00 -0.531 |
| SB-125 | -2.247E-02 | 6.401E+00 | 1.067E+01 | 0.000E+00 -0.002 |
| TE-129M | 2.677E+01 | 3.194E+01 | 5.479E+01 | 0.000E+00 0.489 |
| I-131 | 2.015E+00 | 7.238E+00 | 1.198E+01 | 0.000E+00 0.168 |
| BA-133 | 6.728E+00 | 3.671E+00 | 5.588E+00 | 0.000E+00 1.204 |
| CS-134 | 2.711E+00 | 4.428E+00 | 4.136E+00 | 0.000E+00 0.655 |
| CS-136 | -1.535E+00 | 4.765E+00 | 7.618E+00 | 0.000E+00 -0.201 |
| CS-137 | 1.611E+00 | 2.465E+00 | 4.211E+00 | 0.000E+00 0.382 |
| CE-139 | -2.080E+00 | 2.168E+00 | 3.526E+00 | 0.000E+00 -0.590 |
| BA-140 | 5.137E+00 | 1.577E+01 | 2.626E+01 | 0.000E+00 0.196 |
| LA-140 | -1.790E+00 | 5.956E+00 | 9.541E+00 | 0.000E+00 -0.188 |
| CE-141 | -1.063E+00 | 5.419E+00 | 7.420E+00 | 0.000E+00 -0.143 |
| CE-144 | -1.614E+01 | 1.916E+01 | 2.575E+01 | 0.000E+00 -0.627 |
| EU-152 | -9.179E+00 | 7.958E+00 | 1.119E+01 | 0.000E+00 -0.820 |
| EU-154 | -3.199E+00 | 4.264E+00 | 6.818E+00 | 0.000E+00 -0.469 |
| RA-226 | 1.902E+01 | 5.782E+01 | 9.099E+01 | 0.000E+00 0.209 |
| AC-228 | -7.953E+00 | 9.717E+00 | 1.456E+01 | 0.000E+00 -0.546 |
| TH-232 | -7.917E+00 | 9.674E+00 | 1.449E+01 | 0.000E+00 -0.546 |
| U-235 | 6.675E+00 | 1.889E+01 | 2.643E+01 | 0.000E+00 0.253 |
| U-238 | -1.032E+00 | 2.618E+02 | 4.291E+02 | 0.000E+00 -0.002 |
| AM-241 | -5.364E+00 | 2.235E+01 | 3.478E+01 | 0.000E+00 -0.154 |

A,04L28851-17 ,06/14/2006 05:42,05/31/2006 14:00, 2.986E+00,WG L28851-17 E
 B,04L28851-17 ,LIBD ,06/13/2006 09:42,043L082004
 C,K-40 ,YES, 2.335E+01, 3.471E+01, 4.244E+01,, 0.550
 C,TH-228 ,YES, 2.306E-01, 4.453E+00, 6.229E+00,, 0.037
 C,BE-7 ,NO , 5.122E+00, 2.082E+01, 3.482E+01,, 0.147
 C,CR-51 ,NO , -9.342E+00, 2.529E+01, 4.128E+01,, -0.226
 C,MN-54 ,NO , -1.189E+00, 2.362E+00, 3.725E+00,, -0.319
 C,CO-57 ,NO , -1.096E+00, 2.055E+00, 3.305E+00,, -0.332
 C,CO-58 ,NO , -1.518E+00, 2.678E+00, 4.225E+00,, -0.359
 C,FE-59 ,NO , 4.610E+00, 5.255E+00, 9.040E+00,, 0.510
 C,CO-60 ,NO , 1.149E+00, 3.037E+00, 4.815E+00,, 0.239
 C,ZN-65 ,NO , 3.325E+00, 4.838E+00, 8.379E+00,, 0.397
 C,SE-75 ,NO , -1.055E+00, 3.108E+00, 4.974E+00,, -0.212
 C,SR-85 ,NO , 2.253E+01, 3.174E+00, 6.289E+00,, 3.582
 C,Y-88 ,NO , -1.882E+00, 2.854E+00, 4.431E+00,, -0.425
 C,NB-94 ,NO , 1.978E+00, 2.236E+00, 3.842E+00,, 0.515
 C,NB-95 ,NO , 9.556E-01, 2.588E+00, 4.319E+00,, 0.221
 C,ZR-95 ,NO , -5.116E+00, 4.557E+00, 6.996E+00,, -0.731
 C,MO-99 ,NO , 3.144E+02, 5.139E+02, 8.704E+02,, 0.361
 C,RU-103 ,NO , 3.425E+00, 2.949E+00, 5.087E+00,, 0.673
 C,RU-106 ,NO , -1.075E+01, 2.243E+01, 3.548E+01,, -0.303
 C,AG-110m ,NO , 1.782E+00, 2.280E+00, 3.920E+00,, 0.455
 C,SN-113 ,NO , -3.903E+00, 3.109E+00, 4.808E+00,, -0.812
 C,SB-124 ,NO , -2.296E+00, 6.416E+00, 4.326E+00,, -0.531
 C,SB-125 ,NO , -2.247E-02, 6.401E+00, 1.067E+01,, -0.002
 C,TE-129M ,NO , 2.677E+01, 3.194E+01, 5.479E+01,, 0.489
 C,I-131 ,NO , 2.015E+00, 7.238E+00, 1.198E+01,, 0.168
 C,BA-133 ,NO , 6.728E+00, 3.671E+00, 5.588E+00,, 1.204
 C,CS-134 ,NO , 2.711E+00, 4.428E+00, 4.136E+00,, 0.655
 C,CS-136 ,NO , -1.535E+00, 4.765E+00, 7.618E+00,, -0.201
 C,CS-137 ,NO , 1.611E+00, 2.465E+00, 4.211E+00,, 0.382
 C,CE-139 ,NO , -2.080E+00, 2.168E+00, 3.526E+00,, -0.590
 C,BA-140 ,NO , 5.137E+00, 1.577E+01, 2.626E+01,, 0.196
 C,LA-140 ,NO , -1.790E+00, 5.956E+00, 9.541E+00,, -0.188
 C,CE-141 ,NO , -1.063E+00, 5.419E+00, 7.420E+00,, -0.143
 C,CE-144 ,NO , -1.614E+01, 1.916E+01, 2.575E+01,, -0.627
 C,EU-152 ,NO , -9.179E+00, 7.958E+00, 1.119E+01,, -0.820
 C,EU-154 ,NO , -3.199E+00, 4.264E+00, 6.818E+00,, -0.469
 C,RA-226 ,NO , 1.902E+01, 5.782E+01, 9.099E+01,, 0.209
 C,AC-228 ,NO , -7.953E+00, 9.717E+00, 1.456E+01,, -0.546
 C,TH-232 ,NO , -7.917E+00, 9.674E+00, 1.449E+01,, -0.546
 C,U-235 ,NO , 6.675E+00, 1.889E+01, 2.643E+01,, 0.253
 C,U-238 ,NO , -1.032E+00, 2.618E+02, 4.291E+02,, -0.002
 C,AM-241 ,NO , -5.364E+00, 2.235E+01, 3.478E+01,, -0.154

Sec. Review: Analyst:  LIMS:

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VAX/VMS Teledyne Brown Eng. Laboratory Gamma Report: 14-JUN-2006 05:42:16.93
 TBE07 P-10768B HpGe ***** Aquisition Date/Time: 13-JUN-2006 23:42:01.88

LIMS No., Customer Name, Client ID: WG L28851-18 EX DRES

| | | | |
|---------------|-----------------|---------------|-----------------------|
| Sample ID | : 07L28851-18 | Smple Date: | 31-MAY-2006 15:30:00. |
| Sample Type | : WG | Geometry | : 073L082504 |
| Quantity | : 3.06340E+00 L | BKGFILE | : 07BG060306MT |
| Start Channel | : 40 | Energy Tol | : 1.00000 |
| End Channel | : 4090 | Pk Srch Sens: | 5.00000 |
| MDA Constant | : 0.00 | Library Used: | LIBD |
| | | Real Time | : 0 06:00:04.18 |
| | | Live time | : 0 06:00:00.00 |

| Pk | It | Energy | Area | Bkgnd | FWHM | Channel | %Eff | Cts/Sec | %Err | Fit |
|----|----|----------|------|-------|------|---------|----------|----------|------|----------|
| 1 | 2 | 66.35* | 240 | 392 | 1.25 | 133.26 | 8.06E-01 | 1.11E-02 | 15.8 | 2.69E+00 |
| 2 | 1 | 85.74 | 113 | 1014 | 3.84 | 172.09 | 1.53E+00 | 5.21E-03 | 61.3 | 4.59E+00 |
| 3 | 1 | 140.20* | 179 | 502 | 1.23 | 281.10 | 2.36E+00 | 8.30E-03 | 25.4 | 4.98E+00 |
| 4 | 1 | 198.34* | 111 | 490 | 1.40 | 397.44 | 2.25E+00 | 5.12E-03 | 41.9 | 2.13E+00 |
| 5 | 1 | 583.14* | 65 | 99 | 2.57 | 1167.44 | 1.12E+00 | 3.00E-03 | 40.5 | 3.99E-01 |
| 6 | 1 | 596.14 | 78 | 141 | 1.54 | 1193.46 | 1.10E+00 | 3.62E-03 | 30.2 | 2.16E+00 |
| 7 | 1 | 609.77* | 100 | 196 | 2.11 | 1220.73 | 1.09E+00 | 4.62E-03 | 36.8 | 2.14E+00 |
| 8 | 1 | 1461.31* | 65 | 50 | 2.66 | 2923.60 | 5.83E-01 | 3.01E-03 | 39.7 | 1.56E+00 |

Flag: "*" = Peak area was modified by background subtraction

Nuclide Line Activity Report

Nuclide Type: natural

| Nuclide | Energy | Area | %Abn | %Eff | Uncorrected pCi/L | Decay Corr pCi/L | 2-Sigma %Error |
|---------|---------|------|--------|-----------|----------------------|---------------------|-------------------|
| K-40 | 1460.81 | 65 | 10.67* | 5.826E-01 | 4.266E+01 | 4.266E+01 | 79.37 |

Flag: "*" = Keyline

Summary of Nuclide Activity

Page : 2

Sample ID : 07L28851-18

Acquisition date : 13-JUN-2006 23:42:01

| | | |
|---|---|--------|
| Total number of lines in spectrum | 8 | |
| Number of unidentified lines | 6 | |
| Number of lines tentatively identified by NID | 2 | 25.00% |

Nuclide Type : natural

| Nuclide | Hlife | Decay | Uncorrected pCi/L | Decay Corr pCi/L | Decay Corr 2-Sigma Error | 2-Sigma %Error | Flags |
|---------|-----------|------------------|----------------------|---------------------|-----------------------------|-------------------|-------|
| K-40 | 1.28E+09Y | 1.00 | 4.266E+01 | 4.266E+01 | 3.386E+01 | 79.37 | |
| | | | ----- | ----- | | | |
| | | Total Activity : | 4.266E+01 | 4.266E+01 | | | |

| | | |
|------------------------|-----------|-----------|
| Grand Total Activity : | 4.266E+01 | 4.266E+01 |
|------------------------|-----------|-----------|

Flags: "K" = Keyline not found
 "E" = Manually edited

"M" = Manually accepted
 "A" = Nuclide specific abn. limit

Unidentified Energy Lines
Sample ID : 07L28851-18

Page : 3
Acquisition date : 13-JUN-2006 23:42:01

| It | Energy | Area | Bkgnd | FWHM | Channel | Left | Pw | Cts/Sec | %Err | %Eff | Flags |
|----|--------|------|-------|------|---------|------|----|----------|------|----------|-------|
| 2 | 66.35 | 240 | 392 | 1.25 | 133.26 | 124 | 13 | 1.11E-02 | 31.6 | 8.06E-01 | |
| 1 | 85.74 | 113 | 1014 | 3.84 | 172.09 | 164 | 14 | 5.21E-03 | **** | 1.53E+00 | |
| 1 | 140.20 | 179 | 502 | 1.23 | 281.10 | 277 | 8 | 8.30E-03 | 50.9 | 2.36E+00 | |
| 1 | 198.34 | 111 | 490 | 1.40 | 397.44 | 394 | 9 | 5.12E-03 | 83.7 | 2.25E+00 | |
| 1 | 583.14 | 65 | 99 | 2.57 | 1167.44 | 1163 | 10 | 3.00E-03 | 81.1 | 1.12E+00 | T |
| 1 | 596.14 | 78 | 141 | 1.54 | 1193.46 | 1189 | 9 | 3.62E-03 | 60.4 | 1.10E+00 | |
| 1 | 609.77 | 100 | 196 | 2.11 | 1220.73 | 1215 | 15 | 4.62E-03 | 73.6 | 1.09E+00 | |

Flags: "T" = Tentatively associated

Summary of Nuclide Activity

| | |
|---|---------------|
| Total number of lines in spectrum | 8 |
| Number of unidentified lines | 6 |
| Number of lines tentatively identified by NID | 2 25.00% |

Nuclide Type : natural

| Nuclide | Hlife | Decay | Wtd Mean Uncorrected pCi/L | Wtd Mean Decay Corr pCi/L | Decay Corr 2-Sigma Error | 2-Sigma %Error | Flags |
|------------------|-----------|-------|----------------------------------|---------------------------------|-----------------------------|-------------------|-------|
| K-40 | 1.28E+09Y | 1.00 | 4.266E+01 | 4.266E+01 | 3.386E+01 | 79.37 | |
| Total Activity : | | | 4.266E+01 | 4.266E+01 | | | |

Grand Total Activity : 4.266E+01 4.266E+01

Flags: "K" = Keyline not found "M" = Manually accepted
"E" = Manually edited "A" = Nuclide specific abn. limit

Interference Report

No interference correction performed

Combined Activity-MDA Report

---- Identified Nuclides ----

| Nuclide | Activity (pCi/L) | Act error | MDA (pCi/L) | MDA error | Act/MDA |
|---------|---------------------|-----------|----------------|-----------|---------|
| K-40 | 4.266E+01 | 3.386E+01 | 3.015E+01 | 0.000E+00 | 1.415 |

---- Non-Identified Nuclides ----

| Nuclide | Key-Line Activity (pCi/L) | K.L. Ided | Act error | MDA (pCi/L) | MDA error | Act/MDA |
|---------|---------------------------------|--------------|-----------|---------------------|-----------|---------|
| BE-7 | 2.145E+01 | | 1.943E+01 | 3.296E+01 | 0.000E+00 | 0.651 |
| NA-24 | 8.466E-01 | | 3.069E+00 | Half-Life too short | | |
| CR-51 | -4.739E+01 | | 2.257E+01 | 3.524E+01 | 0.000E+00 | -1.345 |
| MN-54 | 1.327E+00 | | 2.016E+00 | 3.433E+00 | 0.000E+00 | 0.387 |

| | | | | | |
|---------|------------|-----------|-----------|-----------|--------|
| CO-57 | -1.275E+00 | 1.951E+00 | 3.140E+00 | 0.000E+00 | -0.406 |
| CO-58 | 9.811E-02 | 2.166E+00 | 3.594E+00 | 0.000E+00 | 0.027 |
| FE-59 | 9.105E-01 | 4.467E+00 | 7.480E+00 | 0.000E+00 | 0.122 |
| CO-60 | -8.528E-01 | 2.154E+00 | 3.428E+00 | 0.000E+00 | -0.249 |
| ZN-65 | 4.570E+00 | 4.451E+00 | 7.747E+00 | 0.000E+00 | 0.590 |
| SE-75 | -1.733E+00 | 2.734E+00 | 4.383E+00 | 0.000E+00 | -0.395 |
| SR-85 | 2.253E+01 | 2.796E+00 | 5.554E+00 | 0.000E+00 | 4.056 |
| Y-88 | -9.107E-01 | 2.333E+00 | 3.748E+00 | 0.000E+00 | -0.243 |
| NB-94 | -7.727E-01 | 2.027E+00 | 3.254E+00 | 0.000E+00 | -0.237 |
| NB-95 | 4.993E-01 | 2.211E+00 | 3.711E+00 | 0.000E+00 | 0.135 |
| ZR-95 | -2.789E+00 | 4.045E+00 | 6.348E+00 | 0.000E+00 | -0.439 |
| MO-99 | -3.241E+02 | 4.574E+02 | 7.193E+02 | 0.000E+00 | -0.451 |
| RU-103 | 2.381E+00 | 2.547E+00 | 4.282E+00 | 0.000E+00 | 0.556 |
| RU-106 | 1.107E+00 | 2.091E+01 | 3.194E+01 | 0.000E+00 | 0.035 |
| AG-110m | -5.988E-02 | 1.977E+00 | 3.237E+00 | 0.000E+00 | -0.019 |
| SN-113 | 2.877E-02 | 2.737E+00 | 4.509E+00 | 0.000E+00 | 0.006 |
| SB-124 | 8.975E-01 | 5.084E+00 | 3.688E+00 | 0.000E+00 | 0.243 |
| SB-125 | -2.392E+00 | 5.593E+00 | 9.022E+00 | 0.000E+00 | -0.265 |
| TE-129M | 5.226E+00 | 2.897E+01 | 4.759E+01 | 0.000E+00 | 0.110 |
| I-131 | -2.109E+00 | 6.246E+00 | 1.022E+01 | 0.000E+00 | -0.206 |
| BA-133 | 4.232E+00 | 2.710E+00 | 4.697E+00 | 0.000E+00 | 0.901 |
| CS-134 | 3.590E+00 | 3.480E+00 | 3.675E+00 | 0.000E+00 | 0.977 |
| CS-136 | -1.892E+00 | 3.806E+00 | 6.143E+00 | 0.000E+00 | -0.308 |
| CS-137 | 1.347E+00 | 2.082E+00 | 3.511E+00 | 0.000E+00 | 0.384 |
| CE-139 | -2.188E+00 | 1.960E+00 | 3.189E+00 | 0.000E+00 | -0.686 |
| BA-140 | -9.686E-01 | 1.401E+01 | 2.319E+01 | 0.000E+00 | -0.042 |
| LA-140 | -1.083E-01 | 4.647E+00 | 7.624E+00 | 0.000E+00 | -0.014 |
| CE-141 | 5.785E-01 | 5.054E+00 | 6.998E+00 | 0.000E+00 | 0.083 |
| CE-144 | -6.748E+00 | 1.757E+01 | 2.402E+01 | 0.000E+00 | -0.281 |
| EU-152 | -1.610E+01 | 6.235E+00 | 9.527E+00 | 0.000E+00 | -1.690 |
| EU-154 | -1.772E+00 | 3.970E+00 | 6.419E+00 | 0.000E+00 | -0.276 |
| RA-226 | -1.573E+01 | 5.046E+01 | 8.083E+01 | 0.000E+00 | -0.195 |
| AC-228 | 1.243E+00 | 8.442E+00 | 1.317E+01 | 0.000E+00 | 0.094 |
| TH-228 | -7.575E-01 | 4.000E+00 | 6.343E+00 | 0.000E+00 | -0.119 |
| TH-232 | 1.237E+00 | 8.405E+00 | 1.311E+01 | 0.000E+00 | 0.094 |
| U-235 | 1.244E+01 | 1.775E+01 | 2.507E+01 | 0.000E+00 | 0.496 |
| U-238 | 9.699E+00 | 2.132E+02 | 3.488E+02 | 0.000E+00 | 0.028 |
| AM-241 | 1.519E+01 | 2.073E+01 | 2.930E+01 | 0.000E+00 | 0.518 |

```

A,07L28851-18      ,06/14/2006 05:42,05/31/2006 15:30,      3.063E+00,WG L28851-18 E
B,07L28851-18      ,LIBD      ,06/07/2006 09:32,073L082504
C,K-40      ,YES,      4.266E+01,      3.386E+01,      3.015E+01,,      1.415
C,BE-7      ,NO ,      2.145E+01,      1.943E+01,      3.296E+01,,      0.651
C,CR-51     ,NO ,      -4.739E+01,      2.257E+01,      3.524E+01,,      -1.345
C,MN-54     ,NO ,      1.327E+00,      2.016E+00,      3.433E+00,,      0.387
C,CO-57     ,NO ,      -1.275E+00,      1.951E+00,      3.140E+00,,      -0.406
C,CO-58     ,NO ,      9.811E-02,      2.166E+00,      3.594E+00,,      0.027
C,FE-59     ,NO ,      9.105E-01,      4.467E+00,      7.480E+00,,      0.122
C,CO-60     ,NO ,      -8.528E-01,      2.154E+00,      3.428E+00,,      -0.249
C,ZN-65     ,NO ,      4.570E+00,      4.451E+00,      7.747E+00,,      0.590
C,SE-75     ,NO ,      -1.733E+00,      2.734E+00,      4.383E+00,,      -0.395
C,SR-85     ,NO ,      2.253E+01,      2.796E+00,      5.554E+00,,      4.056
C,Y-88      ,NO ,      -9.107E-01,      2.333E+00,      3.748E+00,,      -0.243
C,NB-94     ,NO ,      -7.727E-01,      2.027E+00,      3.254E+00,,      -0.237
C,NB-95     ,NO ,      4.993E-01,      2.211E+00,      3.711E+00,,      0.135
C,ZR-95     ,NO ,      -2.789E+00,      4.045E+00,      6.348E+00,,      -0.439
C,MO-99     ,NO ,      -3.241E+02,      4.574E+02,      7.193E+02,,      -0.451
C,RU-103    ,NO ,      2.381E+00,      2.547E+00,      4.282E+00,,      0.556
C,RU-106    ,NO ,      1.107E+00,      2.091E+01,      3.194E+01,,      0.035
C,AG-110m   ,NO ,      -5.988E-02,      1.977E+00,      3.237E+00,,      -0.019
C,SN-113    ,NO ,      2.877E-02,      2.737E+00,      4.509E+00,,      0.006
C,SB-124    ,NO ,      8.975E-01,      5.084E+00,      3.688E+00,,      0.243
C,SB-125    ,NO ,      -2.392E+00,      5.593E+00,      9.022E+00,,      -0.265
C,TE-129M   ,NO ,      5.226E+00,      2.897E+01,      4.759E+01,,      0.110
C,I-131     ,NO ,      -2.109E+00,      6.246E+00,      1.022E+01,,      -0.206
C,BA-133    ,NO ,      4.232E+00,      2.710E+00,      4.697E+00,,      0.901
C,CS-134    ,NO ,      3.590E+00,      3.480E+00,      3.675E+00,,      0.977
C,CS-136    ,NO ,      -1.892E+00,      3.806E+00,      6.143E+00,,      -0.308
C,CS-137    ,NO ,      1.347E+00,      2.082E+00,      3.511E+00,,      0.384
C,CE-139    ,NO ,      -2.188E+00,      1.960E+00,      3.189E+00,,      -0.686
C,BA-140    ,NO ,      -9.686E-01,      1.401E+01,      2.319E+01,,      -0.042
C,LA-140    ,NO ,      -1.083E-01,      4.647E+00,      7.624E+00,,      -0.014
C,CE-141    ,NO ,      5.785E-01,      5.054E+00,      6.998E+00,,      0.083
C,CE-144    ,NO ,      -6.748E+00,      1.757E+01,      2.402E+01,,      -0.281
C,EU-152    ,NO ,      -1.610E+01,      6.235E+00,      9.527E+00,,      -1.690
C,EU-154    ,NO ,      -1.772E+00,      3.970E+00,      6.419E+00,,      -0.276
C,RA-226    ,NO ,      -1.573E+01,      5.046E+01,      8.083E+01,,      -0.195
C,AC-228    ,NO ,      1.243E+00,      8.442E+00,      1.317E+01,,      0.094
C,TH-228    ,NO ,      -7.575E-01,      4.000E+00,      6.343E+00,,      -0.119
C,TH-232    ,NO ,      1.237E+00,      8.405E+00,      1.311E+01,,      0.094
C,U-235     ,NO ,      1.244E+01,      1.775E+01,      2.507E+01,,      0.496
C,U-238     ,NO ,      9.699E+00,      2.132E+02,      3.488E+02,,      0.028
C,AM-241    ,NO ,      1.519E+01,      2.073E+01,      2.930E+01,,      0.518

```



2508 Quality Lane
Knoxville, TN 37931
865-690-6819 (Phone)

Work Order #: L28853

Exelon - Dresden

June 21, 2006



TELEDYNE
BROWN ENGINEERING, INC.
 A Teledyne Technologies Company
 2508 Quality Lane
 Knoxville, TN 37931-3133

Kathy Shaw
 Conestoga-Rovers & Associates
 45 Farmington Valley Road
 Plainville CT 06062

Case Narrative - L28853
EX001-3ESPDRES-06

06/21/2006 11:16

Sample Receipt

The following samples were received on June 7, 2006 in good condition, unless otherwise noted.

Cross Reference Table

| Client ID | Laboratory ID | Station ID(if applicable) |
|--------------------------------|---------------|---------------------------|
| WG-DN-MW-DN-102I-060106-JL-075 | L28853-1 | |
| WG-DN-MW-DN-102S-060106-JL-076 | L28853-2 | |
| WG-DN-MW-DN-105S-060106-JL-077 | L28853-3 | |
| WG-DN-DSP-DN-125-060106-JL-078 | L28853-4 | |

Analytical Method Cross Reference Table

| Radiological Parameter | TBE Knoxville Method | Reference Method |
|------------------------|----------------------|------------------|
| Gamma Spectrometry | TBE-2007 | EPA 901.1 |
| H-3 | TBE-2010 | EPA 906.0 |
| TOTAL SR | TBE-2018 | EPA 905.0 |



Case Narrative - L28853
EX001-3ESPDRES-06

06/21/2006 11:16

Gamma Spectroscopy

Quality Control

Quality control samples were analyzed as WG4127.

Duplicate Sample

Duplicates were analyzed for the following samples. All duplicate results were within acceptance limits, unless otherwise noted.

| <u>Client ID</u> | <u>Laboratory ID</u> | <u>QC Sample #</u> |
|------------------------------------|----------------------|--------------------|
| WG-DN-MW-DN-102I- 060106-JL-075 | L28853-1 | WG4127-1 |

H-3

Quality Control

Quality control samples were analyzed as WG4122.

Method Blank

All blanks were within acceptance limits, unless otherwise noted.

Laboratory Control Sample

All laboratory control samples were within acceptance limits, unless otherwise noted.

Duplicate Sample

Duplicates were analyzed for the following samples. All duplicate results were within acceptance limits, unless otherwise noted.

| <u>Client ID</u> | <u>Laboratory ID</u> | <u>QC Sample #</u> |
|------------------------------------|----------------------|--------------------|
| WG-DN-MW-DN-110S- 053006-JL-067 | L28851-11 | WG4122-3 |



Case Narrative - L28853
EX001-3ESPDRES-06

06/21/2006 11:16

TOTAL SR

Quality Control

Quality control samples were analyzed as WG4162.

Method Blank

All blanks were within acceptance limits, unless otherwise noted.

Laboratory Control Sample

All laboratory control samples were within acceptance limits, unless otherwise noted.

Duplicate Sample

Duplicates were analyzed for the following samples. All duplicate results were within acceptance limits, unless otherwise noted.

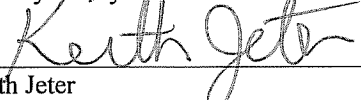
| <u>Client ID</u> | <u>Laboratory ID</u> | <u>QC Sample #</u> |
|------------------|----------------------|--------------------|
| STILL CREEK | L28864-1 | WG4162-3 |

Certification

This is to certify that Teledyne Brown Engineering - Environmental Services, located at 2508 Quality Lane, Knoxville, Tennessee, 37931, has analyzed, tested and documented samples as specified in the applicable purchase order.

This also certifies that requirements of applicable codes, standards and specifications have been fully met and that any quality assurance documentation which verified conformance to the purchase order is on file and may be examined upon request.

I hereby certify that the above statements are true and correct.



Keith Jeter
Operations Manager

Sample Receipt Summary

06/07/06 12:32

Teledyne Brown Engineering
Sample Receipt Verification/Variance Report

SR #: SR08744

Client: Exelon

Project #: EX001-3ESPDRES-06

LIMS #: L28851

Initiated By: BWILKERSON

Init Date: 06/07/06 Receive Date: 06/07/06

Notification of Variance

Person Notified:

Contacted By:

Notify Date:

Notify Method:

Notify Comment:

Client Response

Person Responding:

Response Date:

Response Method:

Response Comment

| Criteria | Yes | No | NA | Comment |
|--|-----|----|----|------------------|
| 1 Shipping container custody seals present and intact. | | | NA | |
| 2 Sample container custody seals present and intact. | | | NA | |
| 3 Sample containers received in good condition | | Y | | |
| 4 Chain of custody received with samples | | Y | | |
| 5 All samples listed on chain of custody received | | Y | | |
| 6 Sample container labels present and legible. | | Y | | |
| 7 Information on container labels correspond with chain of custody | | Y | | |
| 8 Sample(s) properly preserved and in appropriate container(s) | | Y | | Ph at or below 2 |
| 9 Other (Describe) | | | NA | |

L28853

CONESTOGA-ROVERS & ASSOCIATES



8615 W. Bryn Mawr Avenue
Chicago, Illinois 60631
(773)380-9933 phone
(773)380-6421 fax

SHIPPED TO
(Laboratory Name):

Teledyne Brown

REFERENCE NUMBER:

45136-23

PROJECT NAME:

Dresden Generating Station

CHAIN-OF-CUSTODY RECORD

SAMPLER'S
SIGNATURE:

Julie Liguori

PRINTED
NAME:

Julie Liguori

PARAMETERS

No. OF
CONTAINERS

REMARKS

SEQ.
No.

DATE

TIME

SAMPLE IDENTIFICATION No.

SAMPLE
MATRIX

Tritium
Strontium
Cesium
Spec

| | | | | | | | | | | | | | | | | | | | | |
|--|--------|------|--------------------------------|---|---|---|---|---|--|--|--|--|--|--|--|--|--|--|--|--|
| | 6/1/06 | 1045 | WQ-DN-MW-DN-102I-060106-JL-075 | W | 2 | X | X | X | | | | | | | | | | | | |
| | | 1150 | WQ-DN-MW-DN-102S-060106-JL-076 | W | 2 | X | X | X | | | | | | | | | | | | |
| | | 1410 | WQ-DN-MW-DN-105S-060106-JL-077 | W | 2 | X | X | X | | | | | | | | | | | | |
| | | 1510 | WQ-DN-DSP-DN-125-060106-JL-078 | W | 2 | X | X | X | | | | | | | | | | | | |

TOTAL NUMBER OF CONTAINERS

8

RELINQUISHED BY:

① Julie Liguori

DATE: 6/1/06

TIME: 1540

RECEIVED BY:

② Brian Lush

DATE: 6-1-06

TIME: 1548

RELINQUISHED BY:

② Zelt

DATE: 6-5-06

TIME: 1345

RECEIVED BY:

③

DATE:

TIME:

RELINQUISHED BY:

③

DATE:

TIME:

RECEIVED BY:

④

DATE:

TIME:

METHOD OF SHIPMENT:

AIR BILL No.

White -Fully Executed Copy
Yellow -Receiving Laboratory Copy
Pink -Shipper Copy
Goldenrod -Sampler Copy

SAMPLE TEAM:

RECEIVED FOR LABORATORY BY:

B. Wilkerson

12771

DATE: 6-7-06 TIME: 8 AM

Internal Chain of Custody

Internal Chain of Custody

Sample # L28853-1 Containernum 1

Prod Analyst
GELI DW
H-3 EJ
SR-90 (FAST) LCB

Relinquish Date Relinquish By Received By
06/07/2006 00:00 099999 Sample Custodian

Sample # L28853-1 Containernum 2

Prod Analyst
GELI DW
H-3 EJ
SR-90 (FAST) LCB

Relinquish Date Relinquish By Received By
06/07/2006 00:00 099999 Sample Custodian

Sample # L28853-2 Containernum 1

Prod Analyst
GELI DW
H-3 EJ
SR-90 (FAST) LCB

Relinquish Date Relinquish By Received By
06/07/2006 00:00 099999 Sample Custodian

Sample # L28853-2 Containernum 2

Prod Analyst
GELI DW
H-3 EJ
SR-90 (FAST) LCB

Relinquish Date Relinquish By Received By
06/07/2006 00:00 099999 Sample Custodian

Sample # L28853-3 Containernum 1

Prod Analyst
GELI DW
H-3 EJ
SR-90 (FAST) LCB

Relinquish Date Relinquish By Received By
06/07/2006 00:00 099999 Sample Custodian

Sample # L28853-3 Containernum 2

Prod Analyst
GELI DW
H-3 EJ
SR-90 (FAST) LCB

Relinquish Date Relinquish By Received By
06/07/2006 00:00 099999 Sample Custodian

06/21/06 11:16

Teledyne Brown Engineering

L28853 10 of 42
Page: 2 of 2

Internal Chain of Custody

Sample # L28853-4 Containernum 1

| | |
|--------------|---------|
| Prod | Analyst |
| GELI | DW |
| H-3 | EJ |
| SR-90 (FAST) | LCB |

Relinquish Date Relinquish By

Received By

06/07/2006 00:00

099999

Sample Custodian

Sample # L28853-4 Containernum 2

| | |
|--------------|---------|
| Prod | Analyst |
| GELI | DW |
| H-3 | EJ |
| SR-90 (FAST) | LCB |

Relinquish Date Relinquish By

Received By

06/07/2006 00:00

099999

Sample Custodian

06/21/06

Teledyne Brown Engineering
Internal Chain of Custody
Supplemental Sheet

Page 1 of 1

L28853

L28853-1 WG WG-DN-MW-DN-102I-060106-JL-075

| <u>Process step</u> | <u>Prod</u> | <u>Analyst</u> | <u>Date</u> |
|---------------------|--------------|----------------|-------------|
| Login | | BWILKERSON | 06/07/06 |
| Aliquot | GELI | DW | 06/10/06 |
| Aliquot | H-3 | EJ | 06/10/06 |
| Aliquot | SR-90 (FAST) | LCB | 06/14/06 |
| Count Room | GELI | KOJ | 06/14/06 |
| Count Room | H-3 | KOJ | 06/13/06 |
| Count Room | SR-90 (FAST) | KOJ | 06/20/06 |

L28853-2 WG WG-DN-MW-DN-102S-060106-JL-076

| <u>Process step</u> | <u>Prod</u> | <u>Analyst</u> | <u>Date</u> |
|---------------------|--------------|----------------|-------------|
| Login | | BWILKERSON | 06/07/06 |
| Aliquot | GELI | DW | 06/10/06 |
| Aliquot | H-3 | EJ | 06/10/06 |
| Aliquot | SR-90 (FAST) | LCB | 06/14/06 |
| Count Room | GELI | KPW | 06/14/06 |
| Count Room | H-3 | KOJ | 06/13/06 |
| Count Room | SR-90 (FAST) | KOJ | 06/21/06 |

L28853-3 WG WG-DN-MW-DN-105S-060106-JL-077

| <u>Process step</u> | <u>Prod</u> | <u>Analyst</u> | <u>Date</u> |
|---------------------|--------------|----------------|-------------|
| Login | | BWILKERSON | 06/07/06 |
| Aliquot | GELI | DW | 06/10/06 |
| Aliquot | H-3 | EJ | 06/10/06 |
| Aliquot | SR-90 (FAST) | LCB | 06/14/06 |
| Count Room | GELI | KPW | 06/14/06 |
| Count Room | H-3 | KOJ | 06/13/06 |
| Count Room | SR-90 (FAST) | KOJ | 06/20/06 |

L28853-4 WG WG-DN-DSP-DN-125-060106-JL-078

| <u>Process step</u> | <u>Prod</u> | <u>Analyst</u> | <u>Date</u> |
|---------------------|--------------|----------------|-------------|
| Login | | BWILKERSON | 06/07/06 |
| Aliquot | GELI | DW | 06/10/06 |
| Aliquot | H-3 | EJ | 06/10/06 |
| Aliquot | SR-90 (FAST) | LCB | 06/14/06 |
| Count Room | GELI | KPW | 06/14/06 |
| Count Room | H-3 | KOJ | 06/13/06 |
| Count Room | SR-90 (FAST) | KOJ | 06/20/06 |

Analytical Results Summary

Report of Analysis

06/21/06 11:15

L28853

Conestoga-Rovers & Associates

EX001-3ESPDRES-06

Kathy Shaw

| | | |
|--|---------------------------------|---------------------------|
| Sample ID: WG-DN-MW-DN-102I-060106-JL-075 | Collect Start: 06/01/2006 10:45 | Matrix: Ground Water (WG) |
| Station: | Collect Stop: | Volume: |
| Description: | Receive Date: 06/07/2006 | % Moisture: |
| LIMS Number: L28853-1 | | |

| Radionuclide | SOP# | Activity Conc | Uncertainty 2 Sigma | MDC | Units | Run # | Aliquot Volume | Aliquot Units | Reference Date | Count Date | Count Time | Count Units | Flag Values |
|--------------|------|-----------------|---------------------|-----------------|-------|-------|----------------|---------------|----------------|------------|------------|-------------|-------------|
| H-3 | 2010 | 1.38E+03 | 1.95E+02 | 1.93E+02 | pCi/L | | 10 | ml | | 06/13/06 | 44.74 | M | + |
| TOTAL SR | 2018 | 6.41E-01 | 8.85E-01 | 1.68E+00 | pCi/L | | 450 | ml | 06/01/06 10:45 | 06/20/06 | 120 | M | U |
| MN-54 | 2007 | -5.42E-01 | 2.96E+00 | 4.82E+00 | pCi/L | | 3108.8 | ml | 06/01/06 10:45 | 06/14/06 | 9000 | Sec | U |
| CO-58 | 2007 | -2.01E-01 | 3.34E+00 | 5.51E+00 | pCi/L | | 3108.8 | ml | 06/01/06 10:45 | 06/14/06 | 9000 | Sec | U |
| FE-59 | 2007 | 3.99E+00 | 7.24E+00 | 1.25E+01 | pCi/L | | 3108.8 | ml | 06/01/06 10:45 | 06/14/06 | 9000 | Sec | U |
| CO-60 | 2007 | -7.05E-01 | 3.08E+00 | 4.91E+00 | pCi/L | | 3108.8 | ml | 06/01/06 10:45 | 06/14/06 | 9000 | Sec | U |
| ZN-65 | 2007 | 5.33E+00 | 6.86E+00 | 1.20E+01 | pCi/L | | 3108.8 | ml | 06/01/06 10:45 | 06/14/06 | 9000 | Sec | U |
| NB-95 | 2007 | 3.49E+00 | 3.37E+00 | 5.99E+00 | pCi/L | | 3108.8 | ml | 06/01/06 10:45 | 06/14/06 | 9000 | Sec | U |
| ZR-95 | 2007 | -1.80E+00 | 5.97E+00 | 9.47E+00 | pCi/L | | 3108.8 | ml | 06/01/06 10:45 | 06/14/06 | 9000 | Sec | U |
| CS-134 | 2007 | 6.40E-01 | 3.72E+00 | 5.52E+00 | pCi/L | | 3108.8 | ml | 06/01/06 10:45 | 06/14/06 | 9000 | Sec | U |
| CS-137 | 2007 | -3.33E+00 | 3.41E+00 | 5.21E+00 | pCi/L | | 3108.8 | ml | 06/01/06 10:45 | 06/14/06 | 9000 | Sec | U |
| BA-140 | 2007 | 1.09E+01 | 2.02E+01 | 3.46E+01 | pCi/L | | 3108.8 | ml | 06/01/06 10:45 | 06/14/06 | 9000 | Sec | U |
| LA-140 | 2007 | 1.77E+00 | 6.36E+00 | 1.08E+01 | pCi/L | | 3108.8 | ml | 06/01/06 10:45 | 06/14/06 | 9000 | Sec | U |

Flag Values

U = Compound/Analyte not detected or less than 3 sigma
+ = Activity concentration exceeds MDC and 3 sigma; peak identified(gamma only)
U* = Compound/Analyte not detected. Peak not identified, but forced activity concentration exceeds MDC and 3 sigma
High = Activity concentration exceeds customer reporting value
Spec = MDC exceeds customer technical specification
L = Low recovery
H = High recovery

Bolded text indicates reportable value.

No = Peak not identified in gamma spectrum
Yes = Peak identified in gamma spectrum
**** Results are reported on an as received basis unless otherwise noted

MDC - Minimum Detectable Concentration

Report of Analysis

06/21/06 11:15

L28853

Conestoga-Rovers & Associates

EX001-3ESPDRES-06



TELEDYNE
BROWN ENGINEERING, INC.
A Teledyne Technologies Company

Kathy Shaw

| | | |
|--|---------------------------------|---------------------------|
| Sample ID: WG-DN-MW-DN-102S-060106-JL-076 | Collect Start: 06/01/2006 11:50 | Matrix: Ground Water (WG) |
| Station: | Collect Stop: | Volume: |
| Description: | Receive Date: 06/07/2006 | % Moisture: |
| LIMS Number: L28853-2 | | |

| Radionuclide | SOP# | Activity Conc | Uncertainty 2 Sigma | MDC | Units | Run # | Aliquot Volume | Aliquot Units | Reference Date | Count Date | Count Time | Count Units | Flag Values | | |
|--------------|------|-----------------|---------------------|-----------------|-------|-------|----------------|---------------|----------------|------------|------------|-------------|-------------|------|----|
| H-3 | 2010 | 4.25E+03 | 4.75E+02 | 3.09E+02 | pCi/L | | 10 | ml | | 06/13/06 | 17.94 | M | + | High | |
| TOTAL SR | 2018 | 7.50E-01 | 7.33E-01 | 1.38E+00 | pCi/L | | 450 | ml | 06/01/06 11:50 | 06/21/06 | 100 | M | U | | |
| MN-54 | 2007 | 2.82E-01 | 2.53E+00 | 4.21E+00 | pCi/L | | 3083.9 | ml | 06/01/06 11:50 | 06/14/06 | 13342 | Sec | U | | No |
| CO-58 | 2007 | -1.46E+00 | 2.81E+00 | 4.51E+00 | pCi/L | | 3083.9 | ml | 06/01/06 11:50 | 06/14/06 | 13342 | Sec | U | | No |
| FE-59 | 2007 | 5.59E-01 | 5.99E+00 | 9.98E+00 | pCi/L | | 3083.9 | ml | 06/01/06 11:50 | 06/14/06 | 13342 | Sec | U | | No |
| CO-60 | 2007 | 1.22E+00 | 2.36E+00 | 4.04E+00 | pCi/L | | 3083.9 | ml | 06/01/06 11:50 | 06/14/06 | 13342 | Sec | U | | No |
| ZN-65 | 2007 | 2.32E+00 | 5.68E+00 | 9.64E+00 | pCi/L | | 3083.9 | ml | 06/01/06 11:50 | 06/14/06 | 13342 | Sec | U | | No |
| NB-95 | 2007 | 3.54E-01 | 2.85E+00 | 4.77E+00 | pCi/L | | 3083.9 | ml | 06/01/06 11:50 | 06/14/06 | 13342 | Sec | U | | No |
| ZR-95 | 2007 | -3.97E-01 | 5.10E+00 | 8.25E+00 | pCi/L | | 3083.9 | ml | 06/01/06 11:50 | 06/14/06 | 13342 | Sec | U | | No |
| CS-134 | 2007 | 6.71E+00 | 6.09E+00 | 5.16E+00 | pCi/L | | 3083.9 | ml | 06/01/06 11:50 | 06/14/06 | 13342 | Sec | U | | No |
| CS-137 | 2007 | 8.56E-01 | 2.56E+00 | 4.27E+00 | pCi/L | | 3083.9 | ml | 06/01/06 11:50 | 06/14/06 | 13342 | Sec | U | | No |
| BA-140 | 2007 | 1.47E+01 | 1.78E+01 | 3.07E+01 | pCi/L | | 3083.9 | ml | 06/01/06 11:50 | 06/14/06 | 13342 | Sec | U | | No |
| LA-140 | 2007 | 6.22E+00 | 5.81E+00 | 1.04E+01 | pCi/L | | 3083.9 | ml | 06/01/06 11:50 | 06/14/06 | 13342 | Sec | U | | No |

Flag Values

- U = Compound/Analyte not detected or less than 3 sigma
- +
- U* = Activity concentration exceeds MDC and 3 sigma; peak identified(gamma only)
- U* = Compound/Analyte not detected. Peak not identified, but forced activity concentration exceeds MDC and 3 sigma
- High = Activity concentration exceeds customer reporting value
- Spec = MDC exceeds customer technical specification
- L = Low recovery
- H = High recovery

Bolded text indicates reportable value.

- No = Peak not identified in gamma spectrum
- Yes = Peak identified in gamma spectrum
- **** Results are reported on an as received basis unless otherwise noted

MDC - Minimum Detectable Concentration

Report of Analysis

06/21/06 11:15

L28853

Conestoga-Rovers & Associates

EX001-3ESPDRES-06

Kathy Shaw

| | | |
|--|---------------------------------|---------------------------|
| Sample ID: WG-DN-MW-DN-105S-060106-JL-077 | Collect Start: 06/01/2006 14:10 | Matrix: Ground Water (WG) |
| Station: | Collect Stop: | Volume: |
| Description: | Receive Date: 06/07/2006 | % Moisture: |
| LIMS Number: L28853-3 | | |

| Radionuclide | SOP# | Activity Conc | Uncertainty 2 Sigma | MDC | Units | Run # | Aliquot Volume | Aliquot Units | Reference Date | Count Date | Count Time | Count Units | Flag Values |
|--------------|------|---------------|---------------------|-----------------|-------|-------|----------------|---------------|----------------|------------|------------|-------------|-------------|
| H-3 | 2010 | 2.14E+01 | 1.10E+02 | 1.78E+02 | pCi/L | | 10 | ml | | 06/13/06 | 60 | M | U |
| TOTAL SR | 2018 | 5.90E-01 | 7.40E-01 | 1.40E+00 | pCi/L | | 450 | ml | 06/01/06 14:10 | 06/20/06 | 120 | M | U |
| MN-54 | 2007 | 1.27E+00 | 2.86E+00 | 4.83E+00 | pCi/L | | 3075.34 | ml | 06/01/06 14:10 | 06/14/06 | 12473 | Sec | U |
| CO-58 | 2007 | -1.96E+00 | 2.99E+00 | 4.70E+00 | pCi/L | | 3075.34 | ml | 06/01/06 14:10 | 06/14/06 | 12473 | Sec | U |
| FE-59 | 2007 | 3.19E+00 | 6.59E+00 | 1.12E+01 | pCi/L | | 3075.34 | ml | 06/01/06 14:10 | 06/14/06 | 12473 | Sec | U |
| CO-60 | 2007 | -8.67E-02 | 2.77E+00 | 4.56E+00 | pCi/L | | 3075.34 | ml | 06/01/06 14:10 | 06/14/06 | 12473 | Sec | U |
| ZN-65 | 2007 | 7.14E+00 | 6.32E+00 | 1.12E+01 | pCi/L | | 3075.34 | ml | 06/01/06 14:10 | 06/14/06 | 12473 | Sec | U |
| NB-95 | 2007 | 2.13E+00 | 3.23E+00 | 5.54E+00 | pCi/L | | 3075.34 | ml | 06/01/06 14:10 | 06/14/06 | 12473 | Sec | U |
| ZR-95 | 2007 | 1.51E+00 | 5.54E+00 | 9.31E+00 | pCi/L | | 3075.34 | ml | 06/01/06 14:10 | 06/14/06 | 12473 | Sec | U |
| CS-134 | 2007 | -3.79E+00 | 3.90E+00 | 5.04E+00 | pCi/L | | 3075.34 | ml | 06/01/06 14:10 | 06/14/06 | 12473 | Sec | U |
| CS-137 | 2007 | -1.70E+00 | 3.22E+00 | 4.93E+00 | pCi/L | | 3075.34 | ml | 06/01/06 14:10 | 06/14/06 | 12473 | Sec | U |
| BA-140 | 2007 | -3.45E+00 | 1.88E+01 | 3.08E+01 | pCi/L | | 3075.34 | ml | 06/01/06 14:10 | 06/14/06 | 12473 | Sec | U |
| LA-140 | 2007 | -5.19E-01 | 6.21E+00 | 1.00E+01 | pCi/L | | 3075.34 | ml | 06/01/06 14:10 | 06/14/06 | 12473 | Sec | U |

Flag Values

- U = Compound/Analyte not detected or less than 3 sigma
- +
- U* = Activity concentration exceeds MDC and 3 sigma; peak identified(gamma only)
- High = Compound/Analyte not detected. Peak not identified, but forced activity concentration exceeds MDC and 3 sigma
- Spec = Activity concentration exceeds customer reporting value
- L = MDC exceeds customer technical specification
- L = Low recovery
- H = High recovery

Bolded text indicates reportable value.

- No = Peak not identified in gamma spectrum
- Yes = Peak identified in gamma spectrum
- **** Results are reported on an as received basis unless otherwise noted

MDC - Minimum Detectable Concentration

Report of Analysis

06/21/06 11:15



TELEDYNE
BROWN ENGINEERING, INC.
A Teledyne Technologies Company

L28853

Conestoga-Rovers & Associates

EX001-3ESPDRES-06

Kathy Shaw

| | | |
|--|---------------------------------|---------------------------|
| Sample ID: WG-DN-DSP-DN-125-060106-JL-078 | Collect Start: 06/01/2006 15:10 | Matrix: Ground Water (WG) |
| Station: | Collect Stop: | Volume: |
| Description: | Receive Date: 06/07/2006 | % Moisture: |
| LIMS Number: L28853-4 | | |

| Radionuclide | SOP# | Activity Conc | Uncertainty 2 Sigma | MDC | Units | Run # | Aliquot Volume | Aliquot Units | Reference Date | Count Date | Count Time | Count Units | Flag Values |
|--------------|------|-----------------|---------------------|-----------------|-------|-------|----------------|---------------|----------------|------------|------------|-------------|-------------|
| H-3 | 2010 | 3.20E+02 | 1.27E+02 | 1.78E+02 | pCi/L | | 10 | ml | | 06/13/06 | 60 | M | + |
| TOTAL SR | 2018 | 3.70E-01 | 5.42E-01 | 1.04E+00 | pCi/L | | 450 | ml | 06/01/06 15:10 | 06/20/06 | 120 | M | U |
| MN-54 | 2007 | 1.29E+00 | 2.85E+00 | 5.07E+00 | pCi/L | | 3056.25 | ml | 06/01/06 15:10 | 06/14/06 | 12600 | Sec | U |
| CO-58 | 2007 | 5.46E-01 | 3.16E+00 | 5.54E+00 | pCi/L | | 3056.25 | ml | 06/01/06 15:10 | 06/14/06 | 12600 | Sec | U |
| FE-59 | 2007 | 9.47E-01 | 6.56E+00 | 1.16E+01 | pCi/L | | 3056.25 | ml | 06/01/06 15:10 | 06/14/06 | 12600 | Sec | U |
| CO-60 | 2007 | 1.29E+00 | 2.80E+00 | 5.14E+00 | pCi/L | | 3056.25 | ml | 06/01/06 15:10 | 06/14/06 | 12600 | Sec | U |
| ZN-65 | 2007 | 6.16E+00 | 6.03E+00 | 1.14E+01 | pCi/L | | 3056.25 | ml | 06/01/06 15:10 | 06/14/06 | 12600 | Sec | U |
| NB-95 | 2007 | -1.74E-01 | 3.19E+00 | 5.50E+00 | pCi/L | | 3056.25 | ml | 06/01/06 15:10 | 06/14/06 | 12600 | Sec | U |
| ZR-95 | 2007 | 4.35E-01 | 5.51E+00 | 9.60E+00 | pCi/L | | 3056.25 | ml | 06/01/06 15:10 | 06/14/06 | 12600 | Sec | U |
| CS-134 | 2007 | -1.10E+00 | 3.84E+00 | 5.48E+00 | pCi/L | | 3056.25 | ml | 06/01/06 15:10 | 06/14/06 | 12600 | Sec | U |
| CS-137 | 2007 | 1.15E+00 | 3.08E+00 | 5.46E+00 | pCi/L | | 3056.25 | ml | 06/01/06 15:10 | 06/14/06 | 12600 | Sec | U |
| BA-140 | 2007 | 7.87E+00 | 2.13E+01 | 3.67E+01 | pCi/L | | 3056.25 | ml | 06/01/06 15:10 | 06/14/06 | 12600 | Sec | U |
| LA-140 | 2007 | 1.11E+01 | 6.21E+00 | 1.28E+01 | pCi/L | | 3056.25 | ml | 06/01/06 15:10 | 06/14/06 | 12600 | Sec | U |

Flag Values

- U = Compound/Analyte not detected or less than 3 sigma
- +
- U* = Activity concentration exceeds MDC and 3 sigma; peak identified(gamma only)
- High = Compound/Analyte not detected. Peak not identified, but forced activity concentration exceeds MDC and 3 sigma
- Spec = Activity concentration exceeds customer reporting value
- L = MDC exceeds customer technical specification
- L = Low recovery
- H = High recovery

Bolded text indicates reportable value.

- No = Peak not identified in gamma spectrum
- Yes = Peak identified in gamma spectrum
- **** Results are reported on an as received basis unless otherwise noted

MDC - Minimum Detectable Concentration

QC Results Summary

QC Summary Report

for L28853

6/21/2006

12:19:07PM



H-3

Method Blank Summary

| <u>TBE Sample ID</u> | <u>Radionuclide</u> | <u>Matrix</u> | <u>Count Date/Time</u> | <u>Blank Result</u> | <u>Units</u> | <u>Qualifier</u> | <u>P/F</u> |
|----------------------|---------------------|---------------|------------------------|---------------------|--------------|------------------|------------|
| WG4122-1 | H-3 | WO | 06/13/2006 20:30 | < 1.790E-02 | pCi/Total | U | P |

LCS Sample Summary

| <u>TBE Sample ID</u> | <u>Radionuclide</u> | <u>Matrix</u> | <u>Count Date/Time</u> | <u>Spike Value</u> | <u>LCS Result</u> | <u>Units</u> | <u>Spike Recovery</u> | <u>Range</u> | <u>Qualifier</u> | <u>P/F</u> |
|----------------------|---------------------|---------------|------------------------|--------------------|-------------------|--------------|-----------------------|--------------|------------------|------------|
| WG4122-2 | H-3 | WO | 06/13/2006 21:33 | 5.05E+002 | 4.950E+02 | pCi/Total | 98.1 | 70-130 | + | P |

Spike ID: 3H-041706-1

Spike conc: 5.05E+002

Spike Vol: 1.00E+000

Duplicate Summary

| <u>TBE Sample ID</u> | <u>Radionuclide</u> | <u>Matrix</u> | <u>Count Date/Time</u> | <u>Original Result</u> | <u>DUP Result</u> | <u>Units</u> | <u>RPD</u> | <u>Range</u> | <u>Qualifier</u> | <u>P/F</u> |
|-----------------------|---------------------|---------------|------------------------|------------------------|-------------------|--------------|------------|--------------|------------------|------------|
| WG4122-3 L28851-11 | H-3 | WG | 06/13/2006 0:34 | < 1.720E+02 | < 1.710E+02 | pCi/L | | <30 | ** | NE |

L28853 H-3

Associated Samples for SAMPLENUM

L28853-1

L28853-2

L28853-3

L28853-4

WG4122

CLIENTID

WG-DN-MW-DN-102I-060106-JL-075

WG-DN-MW-DN-102S-060106-JL-076

WG-DN-MW-DN-105S-060106-JL-077

WG-DN-DSP-DN-125-060106-JL-078

+ Positive Result
 U Compound/analyte was analyzed, peak not identified and/or not detected above MDC
 * < 5 times the MDC are not evaluated
 ** Nuclide not detected
 *** Spiking level < 5 times activity
 P Pass
 F Fail
 NE Not evaluated

Page: 1

L28853 18 OF 42

QC Summary Report for L28853

6/21/2006 12:19:07PM



TOTAL SR

Method Blank Summary

| <u>TBE Sample ID</u> | <u>Radionuclide</u> | <u>Matrix</u> | <u>Count Date/Time</u> | <u>Blank Result</u> | <u>Units</u> | <u>Qualifier</u> | <u>P/F</u> |
|----------------------|---------------------|---------------|------------------------|---------------------|--------------|------------------|------------|
| WG4162-1 | TOTAL SR | WO | 06/20/2006 20:27 | < 7.860E-01 | pCi/Total | U | P |

LCS Sample Summary

| <u>TBE Sample ID</u> | <u>Radionuclide</u> | <u>Matrix</u> | <u>Count Date/Time</u> | <u>Spike Value</u> | <u>LCS Result</u> | <u>Units</u> | <u>Spike Recovery</u> | <u>Range</u> | <u>Qualifier</u> | <u>P/F</u> |
|----------------------|---------------------|---------------|------------------------|--------------------|-------------------|--------------|-----------------------|--------------|------------------|------------|
| WG4162-2 | TOTAL SR | WO | 06/20/2006 20:27 | 5.84E+001 | 6.250E+01 | pCi/Total | 107.1 | 70-130 | + | P |

Spike ID: 90SR-011905

Spike conc: 2.34E+002

Spike Vol: 2.50E-001

Duplicate Summary

| <u>TBE Sample ID</u> | <u>Radionuclide</u> | <u>Matrix</u> | <u>Count Date/Time</u> | <u>Original Result</u> | <u>DUP Result</u> | <u>Units</u> | <u>RPD</u> | <u>Range</u> | <u>Qualifier</u> | <u>P/F</u> |
|----------------------|---------------------|---------------|------------------------|------------------------|-------------------|--------------|------------|--------------|------------------|------------|
| WG4162-3 L28864-1 | TOTAL SR | WG | 06/20/2006 20:27 | < 1.630E+00 | < 1.570E+00 | pCi/L | | <30 | ** | NE |

+ Positive Result
 U Compound/analyte was analyzed, peak not identified and/or not detected above MDC
 * < 5 times the MDC are not evaluated
 ** Nuclide not detected
 *** Spiking level < 5 times activity
 P Pass
 F Fail
 NE Not evaluated

Page: 2

L28853 19 OF 42

Raw Data

Work Order: L28853

Customer: Exelon

Page: 1

Nuclide: H-3

Project : EX001-3ESPDRES-06

| Sample ID | Run | Analysis | Reference | Volume/ | Scavenge | Milking | Mount | Count | Counter | Total | Sample | Bkg | Bkg | Eff. | Decay & | Analyst |
|------------------------|-----|-------------------|-----------|-----------------|-----------|-----------|--------|----------|-----------|-------|--------|----------|--------|----------|---------|---------|
| Client ID | # | | Date/time | Aliquot | Date/time | Date/time | Weight | Recovery | Date/time | ID | counts | dt (min) | counts | dt (min) | Factor | |
| L28853-1 | | H-3 | | | | | 0 | | 13-jun-06 | LS7 | 370 | 44.74 | 1.73 | 60 | .214 | EJ |
| WG-DN-MW-DN-102I-06010 | | | | 10 ml | | | | | 08:46 | | | | | | | |
| Activity: 1.38E+03 | | * Error: 1.95E+02 | | MDC: 1.93E+02 | | | | | | | | | | | | |
| L28853-2 | | H-3 | | | | | 0 | | 13-jun-06 | LS7 | 388 | 17.94 | 1.73 | 60 | .211 | EJ |
| WG-DN-MW-DN-102S-06010 | | | | 10 ml | | | | | 09:35 | | | | | | | |
| Activity: 4.25E+03 | | * Error: 4.75E+02 | | MDC: 3.09E+02 | | | | | | | | | | | | |
| L28853-3 | | H-3 | | | | | 0 | | 13-jun-06 | LS7 | 121 | 60 | 1.92 | 60 | .211 | EJ |
| WG-DN-MW-DN-105S-06010 | | | | 10 ml | | | | | 21:52 | | | | | | | |
| Activity: 2.14E+01 | | Error: 1.1E+02 | | MDC: 1.78E+02 * | | | | | | | | | | | | |
| L28853-4 | | H-3 | | | | | 0 | | 13-jun-06 | LS7 | 205 | 60 | 1.92 | 60 | .212 | EJ |
| WG-DN-DSP-DN-125-06010 | | | | 10 ml | | | | | 22:56 | | | | | | | |
| Activity: 3.2E+02 | | * Error: 1.27E+02 | | MDC: 1.78E+02 | | | | | | | | | | | | |

Raw Data Sheet (rawdata)
Jun 21 2006, 11:29 am

Work Order: L28853

Customer: Exelon

Page: 2

Nuclide: SR-90 (FAST)

Project : EX001-3ESPDRES-06

| Sample ID | Run | Analysis | Reference | Volume/ | Scavenge | Milking | Mount | Count | Counter | Total | Sample | Bkg | Bkg | Eff. | Decay & Ingrowth | Analyst |
|--|-----|----------|-----------|---------|-----------|-----------|--------|----------|-----------|-------|--------|----------|--------|----------|------------------|---------|
| Client ID | # | | Date/time | Aliquot | Date/time | Date/time | Weight | Recovery | Date/time | ID | counts | dt (min) | counts | dt (min) | Factor | |
| L28853-1 | | TOTAL SR | 01-jun-06 | | 20-jun-06 | | 0 | | 20-jun-06 | X2A | 95 | 120 | 264 | 400 | .354 .999 | LCB |
| WG-DN-MW-DN-102I-06010 | | | 10:45 | 450 ml | 15:00 | | | 58.06 | 20:27 | | | | | | | |
| Activity: 6.41E-01 Error: 8.85E-01 MDC: 1.68E+00 * | | | | | | | | | | | | | | | | |
| L28853-2 | | TOTAL SR | 01-jun-06 | | 20-jun-06 | | 0 | | 21-jun-06 | Y1C | 97 | 100 | 300 | 400 | .345 .999 | LCB |
| WG-DN-MW-DN-102S-06010 | | | 11:50 | 450 ml | 15:00 | | | 85.22 | 00:37 | | | | | | | |
| Activity: 7.5E-01 Error: 7.33E-01 MDC: 1.38E+00 * | | | | | | | | | | | | | | | | |
| L28853-3 | | TOTAL SR | 01-jun-06 | | 20-jun-06 | | 0 | | 20-jun-06 | X2C | 101 | 120 | 277 | 400 | .344 .999 | LCB |
| WG-DN-MW-DN-105S-06010 | | | 14:10 | 450 ml | 15:00 | | | 73.66 | 20:27 | | | | | | | |
| Activity: 5.9E-01 Error: 7.4E-01 MDC: 1.4E+00 * | | | | | | | | | | | | | | | | |
| L28853-4 | | TOTAL SR | 01-jun-06 | | 20-jun-06 | | 0 | | 20-jun-06 | X2D | 108 | 120 | 307 | 400 | .343 .999 | LCB |
| WG-DN-DSP-DN-125-06010 | | | 15:10 | 450 ml | 15:00 | | | 104.57 | 20:27 | | | | | | | |
| Activity: 3.7E-01 Error: 5.42E-01 MDC: 1.04E+00 * | | | | | | | | | | | | | | | | |

Sec. Review: Analyst: LIMS: ✓

=====

VAX/VMS Teledyne Brown Eng. Laboratory Gamma Report: 14-JUN-2006 16:44:39.71

TBE07 P-10768B HpGe ***** Aquisition Date/Time: 14-JUN-2006 14:14:33.98

LIMS No., Customer Name, Client ID: WG L28853-1 EX DRES

| | | | |
|---------------|-----------------|---------------|-----------------------|
| Sample ID | : 07L28853-1 | Smple Date: | 1-JUN-2006 10:45:00.0 |
| Sample Type | : WG | Geometry | : 073L082504 |
| Quantity | : 3.10880E+00 L | BKGFILE | : 07BG060306MT |
| Start Channel | : 40 | Energy Tol | : 1.00000 |
| End Channel | : 4090 | Real Time | : 0 02:30:01.76 |
| MDA Constant | : 0.00 | Live time | : 0 02:30:00.00 |
| | | Pk Srch Sens: | 5.00000 |
| | | Library Used: | LIBD |

| Pk | It | Energy | Area | Bkgnd | FWHM | Channel | %Eff | Cts/Sec | %Err | Fit |
|----|----|----------|------|-------|------|---------|----------|----------|------|----------|
| 1 | 1 | 66.36* | 100 | 284 | 1.34 | 133.29 | 8.07E-01 | 1.11E-02 | 33.1 | 8.96E-01 |
| 2 | 1 | 139.55* | 66 | 201 | 1.17 | 279.78 | 2.36E+00 | 7.32E-03 | 42.2 | 3.70E+00 |
| 3 | 1 | 584.05* | 69 | 69 | 7.15 | 1169.27 | 1.12E+00 | 7.62E-03 | 31.7 | 7.38E+00 |
| 4 | 1 | 595.96 | 63 | 45 | 2.05 | 1193.09 | 1.10E+00 | 7.01E-03 | 22.7 | 9.29E-01 |
| 5 | 1 | 1460.83* | 35 | 37 | 2.27 | 2922.65 | 5.83E-01 | 3.85E-03 | 52.6 | 1.11E+00 |

Flag: "*" = Peak area was modified by background subtraction

Nuclide Line Activity Report

Nuclide Type: natural

| Nuclide | Energy | Area | %Abn | %Eff | Uncorrected pCi/L | Decay Corr pCi/L | 2-Sigma %Error |
|---------|---------|------|--------|-----------|----------------------|---------------------|-------------------|
| K-40 | 1460.81 | 35 | 10.67* | 5.828E-01 | 5.381E+01 | 5.381E+01 | 105.25 |

Flag: "*" = Keyline

Summary of Nuclide Activity

Page : 2

Sample ID : 07L28853-1

Acquisition date : 14-JUN-2006 14:14:33

| | | |
|---|---|--------|
| Total number of lines in spectrum | 5 | |
| Number of unidentified lines | 3 | |
| Number of lines tentatively identified by NID | 2 | 40.00% |

Nuclide Type : natural

| Nuclide | Hlife | Decay | Uncorrected pCi/L | Decay Corr pCi/L | Decay Corr 2-Sigma Error | 2-Sigma %Error | Flags |
|------------------|-----------|-------|----------------------|---------------------|-----------------------------|-------------------|-------|
| K-40 | 1.28E+09Y | 1.00 | 5.381E+01 | 5.381E+01 | 5.663E+01 | 105.25 | |
| Total Activity : | | | 5.381E+01 | 5.381E+01 | | | |

Grand Total Activity : 5.381E+01 5.381E+01

Flags: "K" = Keyline not found
 "E" = Manually edited

"M" = Manually accepted
 "A" = Nuclide specific abn. limit

Unidentified Energy Lines

Page : 3

Sample ID : 07L28853-1

Acquisition date : 14-JUN-2006 14:14:33

| It | Energy | Area | Bkgnd | FWHM | Channel | Left | Pw | Cts/Sec | %Err | %Eff | Flags |
|----|--------|------|-------|------|---------|------|----|----------|------|----------|-------|
| 1 | 66.36 | 100 | 284 | 1.34 | 133.29 | 129 | 9 | 1.11E-02 | 66.2 | 8.07E-01 | |
| 1 | 139.55 | 66 | 201 | 1.17 | 279.78 | 275 | 8 | 7.32E-03 | 84.4 | 2.36E+00 | |
| 1 | 584.05 | 69 | 69 | 7.15 | 1169.27 | 1164 | 17 | 7.62E-03 | 63.4 | 1.12E+00 | T |
| 1 | 595.96 | 63 | 45 | 2.05 | 1193.09 | 1189 | 9 | 7.01E-03 | 45.4 | 1.10E+00 | |

Flags: "T" = Tentatively associated

Summary of Nuclide Activity

| | |
|---|---------------|
| Total number of lines in spectrum | 5 |
| Number of unidentified lines | 3 |
| Number of lines tentatively identified by NID | 2 40.00% |

Nuclide Type : natural

| Nuclide | Hlife | Decay | Wtd Mean Uncorrected pCi/L | Wtd Mean Decay Corr pCi/L | Decay Corr 2-Sigma Error | 2-Sigma %Error | Flags |
|------------------|-----------|-------|----------------------------------|---------------------------------|-----------------------------|-------------------|-------|
| K-40 | 1.28E+09Y | 1.00 | 5.381E+01 | 5.381E+01 | 5.663E+01 | 105.25 | |
| Total Activity : | | | 5.381E+01 | 5.381E+01 | | | |

Grand Total Activity : 5.381E+01 5.381E+01

Flags: "K" = Keyline not found "M" = Manually accepted
 "E" = Manually edited "A" = Nuclide specific abn. limit

Interference Report

No interference correction performed

Combined Activity-MDA Report

---- Identified Nuclides ----

| Nuclide | Activity (pCi/L) | Act error | MDA (pCi/L) | MDA error | Act/MDA |
|---------|---------------------|-----------|----------------|-----------|---------|
| K-40 | 5.381E+01 | 5.663E+01 | 4.510E+01 | 0.000E+00 | 1.193 |

---- Non-Identified Nuclides ----

| Nuclide | Key-Line Activity (pCi/L) | K.L. Ided | Act error | MDA (pCi/L) | MDA error | Act/MDA |
|---------|---------------------------------|--------------|-----------|---------------------|-----------|---------|
| BE-7 | 1.927E+00 | | 2.899E+01 | 4.740E+01 | 0.000E+00 | 0.041 |
| NA-24 | -3.897E-01 | | 3.322E+00 | Half-Life too short | | |
| CR-51 | -2.865E+01 | | 3.583E+01 | 5.760E+01 | 0.000E+00 | -0.497 |
| MN-54 | -5.423E-01 | | 2.958E+00 | 4.819E+00 | 0.000E+00 | -0.113 |
| CO-57 | -1.350E+00 | | 3.074E+00 | 4.947E+00 | 0.000E+00 | -0.273 |
| CO-58 | -2.014E-01 | | 3.340E+00 | 5.505E+00 | 0.000E+00 | -0.037 |
| FE-59 | 3.989E+00 | | 7.243E+00 | 1.251E+01 | 0.000E+00 | 0.319 |

| | | | | | |
|---------|------------|-----------|-----------|-----------|--------|
| CO-60 | -7.048E-01 | 3.083E+00 | 4.913E+00 | 0.000E+00 | -0.143 |
| ZN-65 | 5.325E+00 | 6.861E+00 | 1.203E+01 | 0.000E+00 | 0.443 |
| SE-75 | -1.515E+00 | 4.414E+00 | 7.102E+00 | 0.000E+00 | -0.213 |
| SR-85 | 2.241E+01 | 4.167E+00 | 8.346E+00 | 0.000E+00 | 2.685 |
| Y-88 | -2.116E+00 | 3.316E+00 | 5.036E+00 | 0.000E+00 | -0.420 |
| NB-94 | -1.006E-01 | 2.981E+00 | 4.854E+00 | 0.000E+00 | -0.021 |
| NB-95 | 3.488E+00 | 3.372E+00 | 5.988E+00 | 0.000E+00 | 0.582 |
| ZR-95 | -1.795E+00 | 5.971E+00 | 9.472E+00 | 0.000E+00 | -0.189 |
| MO-99 | 4.380E+02 | 6.397E+02 | 1.091E+03 | 0.000E+00 | 0.402 |
| RU-103 | 6.435E+00 | 3.787E+00 | 6.753E+00 | 0.000E+00 | 0.953 |
| RU-106 | -1.008E+01 | 2.767E+01 | 4.437E+01 | 0.000E+00 | -0.227 |
| AG-110m | -9.553E-02 | 3.135E+00 | 5.128E+00 | 0.000E+00 | -0.019 |
| SN-113 | 1.668E+00 | 4.146E+00 | 6.969E+00 | 0.000E+00 | 0.239 |
| SB-124 | -7.124E+00 | 4.728E+00 | 5.723E+00 | 0.000E+00 | -1.245 |
| SB-125 | 5.596E+00 | 8.458E+00 | 1.437E+01 | 0.000E+00 | 0.389 |
| TE-129M | 5.254E+01 | 4.377E+01 | 7.626E+01 | 0.000E+00 | 0.689 |
| I-131 | -3.425E+00 | 9.408E+00 | 1.528E+01 | 0.000E+00 | -0.224 |
| BA-133 | 4.213E+00 | 4.211E+00 | 7.291E+00 | 0.000E+00 | 0.578 |
| CS-134 | 6.402E-01 | 3.721E+00 | 5.516E+00 | 0.000E+00 | 0.116 |
| CS-136 | -4.092E-01 | 5.618E+00 | 9.244E+00 | 0.000E+00 | -0.044 |
| CS-137 | -3.325E+00 | 3.406E+00 | 5.208E+00 | 0.000E+00 | -0.639 |
| CE-139 | -2.083E-01 | 2.889E+00 | 4.809E+00 | 0.000E+00 | -0.043 |
| BA-140 | 1.091E+01 | 2.016E+01 | 3.459E+01 | 0.000E+00 | 0.315 |
| LA-140 | 1.774E+00 | 6.355E+00 | 1.078E+01 | 0.000E+00 | 0.165 |
| CE-141 | -1.519E+00 | 7.455E+00 | 1.017E+01 | 0.000E+00 | -0.149 |
| CE-144 | -7.573E+00 | 2.824E+01 | 3.859E+01 | 0.000E+00 | -0.196 |
| EU-152 | -7.022E+00 | 9.578E+00 | 1.535E+01 | 0.000E+00 | -0.457 |
| EU-154 | 6.554E-01 | 6.271E+00 | 1.028E+01 | 0.000E+00 | 0.064 |
| RA-226 | 2.123E+01 | 7.351E+01 | 1.246E+02 | 0.000E+00 | 0.170 |
| AC-228 | 1.422E+01 | 1.201E+01 | 2.144E+01 | 0.000E+00 | 0.663 |
| TH-228 | 6.303E-01 | 6.037E+00 | 1.010E+01 | 0.000E+00 | 0.062 |
| TH-232 | 1.416E+01 | 1.195E+01 | 2.135E+01 | 0.000E+00 | 0.663 |
| U-235 | 4.809E+00 | 2.586E+01 | 3.605E+01 | 0.000E+00 | 0.133 |
| U-238 | 6.100E+01 | 3.316E+02 | 5.495E+02 | 0.000E+00 | 0.111 |
| AM-241 | -3.504E+01 | 3.178E+01 | 4.301E+01 | 0.000E+00 | -0.815 |

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A,07L28853-1      ,06/14/2006 16:44,06/01/2006 10:45,    3.109E+00,WG L28853-1 EX
B,07L28853-1      ,LIBD      ,06/07/2006 09:32,073L082504
C,K-40      ,YES,    5.381E+01,    5.663E+01,    4.510E+01,,    1.193
C,BE-7      ,NO ,    1.927E+00,    2.899E+01,    4.740E+01,,    0.041
C,CR-51     ,NO ,   -2.865E+01,    3.583E+01,    5.760E+01,,   -0.497
C,MN-54     ,NO ,   -5.423E-01,    2.958E+00,    4.819E+00,,   -0.113
C,CO-57     ,NO ,   -1.350E+00,    3.074E+00,    4.947E+00,,   -0.273
C,CO-58     ,NO ,   -2.014E-01,    3.340E+00,    5.505E+00,,   -0.037
C,FE-59     ,NO ,    3.989E+00,    7.243E+00,    1.251E+01,,    0.319
C,CO-60     ,NO ,   -7.048E-01,    3.083E+00,    4.913E+00,,   -0.143
C,ZN-65     ,NO ,    5.325E+00,    6.861E+00,    1.203E+01,,    0.443
C,SE-75     ,NO ,   -1.515E+00,    4.414E+00,    7.102E+00,,   -0.213
C,SR-85     ,NO ,    2.241E+01,    4.167E+00,    8.346E+00,,    2.685
C,Y-88      ,NO ,   -2.116E+00,    3.316E+00,    5.036E+00,,   -0.420
C,NB-94     ,NO ,   -1.006E-01,    2.981E+00,    4.854E+00,,   -0.021
C,NB-95     ,NO ,    3.488E+00,    3.372E+00,    5.988E+00,,    0.582
C,ZR-95     ,NO ,   -1.795E+00,    5.971E+00,    9.472E+00,,   -0.189
C,MO-99     ,NO ,    4.380E+02,    6.397E+02,    1.091E+03,,    0.402
C,RU-103    ,NO ,    6.435E+00,    3.787E+00,    6.753E+00,,    0.953
C,RU-106    ,NO ,   -1.008E+01,    2.767E+01,    4.437E+01,,   -0.227
C,AG-110m   ,NO ,   -9.553E-02,    3.135E+00,    5.128E+00,,   -0.019
C,SN-113    ,NO ,    1.668E+00,    4.146E+00,    6.969E+00,,    0.239
C,SB-124    ,NO ,   -7.124E+00,    4.728E+00,    5.723E+00,,   -1.245
C,SB-125    ,NO ,    5.596E+00,    8.458E+00,    1.437E+01,,    0.389
C,TE-129M   ,NO ,    5.254E+01,    4.377E+01,    7.626E+01,,    0.689
C,I-131     ,NO ,   -3.425E+00,    9.408E+00,    1.528E+01,,   -0.224
C,BA-133    ,NO ,    4.213E+00,    4.211E+00,    7.291E+00,,    0.578
C,CS-134    ,NO ,    6.402E-01,    3.721E+00,    5.516E+00,,    0.116
C,CS-136    ,NO ,   -4.092E-01,    5.618E+00,    9.244E+00,,   -0.044
C,CS-137    ,NO ,   -3.325E+00,    3.406E+00,    5.208E+00,,   -0.639
C,CE-139    ,NO ,   -2.083E-01,    2.889E+00,    4.809E+00,,   -0.043
C,BA-140    ,NO ,    1.091E+01,    2.016E+01,    3.459E+01,,    0.315
C,LA-140    ,NO ,    1.774E+00,    6.355E+00,    1.078E+01,,    0.165
C,CE-141    ,NO ,   -1.519E+00,    7.455E+00,    1.017E+01,,   -0.149
C,CE-144    ,NO ,   -7.573E+00,    2.824E+01,    3.859E+01,,   -0.196
C,EU-152    ,NO ,   -7.022E+00,    9.578E+00,    1.535E+01,,   -0.457
C,EU-154    ,NO ,    6.554E-01,    6.271E+00,    1.028E+01,,    0.064
C,RA-226    ,NO ,    2.123E+01,    7.351E+01,    1.246E+02,,    0.170
C,AC-228    ,NO ,    1.422E+01,    1.201E+01,    2.144E+01,,    0.663
C,TH-228    ,NO ,    6.303E-01,    6.037E+00,    1.010E+01,,    0.062
C,TH-232    ,NO ,    1.416E+01,    1.195E+01,    2.135E+01,,    0.663
C,U-235     ,NO ,    4.809E+00,    2.586E+01,    3.605E+01,,    0.133
C,U-238     ,NO ,    6.100E+01,    3.316E+02,    5.495E+02,,    0.111
C,AM-241    ,NO ,   -3.504E+01,    3.178E+01,    4.301E+01,,   -0.815

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Sec. Review: Analyst: LIMS: ✓

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VAX/VMS Teledyne Brown Eng. Laboratory Gamma Report: 14-JUN-2006 14:06:50.39
 TBE07 P-10768B HpGe ***** Aquisition Date/Time: 14-JUN-2006 10:24:15.43

LIMS No., Customer Name, Client ID: WG L28853-2 DRESDEN

| | | | |
|---------------|-----------------|---------------|-----------------------|
| Sample ID | : 07L28853-2 | Smple Date: | 1-JUN-2006 11:50:00.0 |
| Sample Type | : WG | Geometry | : 073L082504 |
| Quantity | : 3.08390E+00 L | BKGFILE | : 07BG060306MT |
| Start Channel | : 40 | Energy Tol | : 1.00000 |
| End Channel | : 4090 | Pk Srch Sens: | 5.00000 |
| MDA Constant | : 0.00 | Library Used: | LIBD |
| | | Real Time | : 0 03:42:24.44 |
| | | Live time | : 0 03:42:21.81 |

| Pk | It | Energy | Area | Bkgnd | FWHM | Channel | %Eff | Cts/Sec | %Err | Fit |
|----|----|----------|------|-------|------|---------|----------|----------|------|----------|
| 1 | 1 | 139.93* | 94 | 359 | 1.04 | 280.54 | 2.36E+00 | 7.04E-03 | 39.0 | 7.97E-01 |
| 2 | 1 | 198.29* | 110 | 396 | 1.44 | 397.34 | 2.25E+00 | 8.22E-03 | 39.7 | 1.77E+00 |
| 3 | 2 | 241.92 | 92 | 193 | 1.63 | 484.67 | 2.04E+00 | 6.88E-03 | 29.4 | 1.84E+00 |
| 4 | 1 | 351.93* | 81 | 157 | 1.37 | 704.82 | 1.61E+00 | 6.07E-03 | 35.7 | 1.67E+00 |
| 5 | 1 | 595.58 | 88 | 124 | 3.58 | 1192.33 | 1.10E+00 | 6.63E-03 | 30.3 | 2.96E+00 |
| 6 | 1 | 609.41* | 147 | 82 | 1.85 | 1219.99 | 1.09E+00 | 1.10E-02 | 16.4 | 1.11E+00 |
| 7 | 1 | 1420.73 | 29 | 10 | 3.97 | 2842.49 | 5.94E-01 | 2.15E-03 | 26.1 | 3.40E+00 |
| 8 | 1 | 1461.17* | 41 | 13 | 2.29 | 2923.33 | 5.83E-01 | 3.09E-03 | 40.7 | 1.54E+00 |
| 9 | 1 | 1764.71* | 28 | 11 | 2.98 | 3530.00 | 5.12E-01 | 2.13E-03 | 38.6 | 1.12E+00 |

Flag: "*" = Peak area was modified by background subtraction

Nuclide Line Activity Report

Nuclide Type: natural

| Nuclide | Energy | Area | %Abn | %Eff | Uncorrected pCi/L | Decay Corr pCi/L | 2-Sigma %Error |
|---------|---------|------|--------|-----------|----------------------|---------------------|-------------------|
| K-40 | 1460.81 | 41 | 10.67* | 5.827E-01 | 4.360E+01 | 4.360E+01 | 81.36 |

Flag: "*" = Keyline

Summary of Nuclide Activity

Page : 2

Sample ID : 07L28853-2

Acquisition date : 14-JUN-2006 10:24:15

| | | |
|---|---|--------|
| Total number of lines in spectrum | 9 | |
| Number of unidentified lines | 7 | |
| Number of lines tentatively identified by NID | 2 | 22.22% |

Nuclide Type : natural

| Nuclide | Hlife | Decay | Uncorrected pCi/L | Decay Corr pCi/L | Decay Corr 2-Sigma Error | 2-Sigma %Error | Flags |
|------------------|-----------|-------|----------------------|---------------------|-----------------------------|-------------------|-------|
| K-40 | 1.28E+09Y | 1.00 | 4.360E+01 | 4.360E+01 | 3.547E+01 | 81.36 | |
| | | | ----- | ----- | | | |
| Total Activity : | | | 4.360E+01 | 4.360E+01 | | | |

Grand Total Activity : 4.360E+01 4.360E+01

Flags: "K" = Keyline not found
 "E" = Manually edited

"M" = Manually accepted
 "A" = Nuclide specific abn. limit

Unidentified Energy Lines

Page : 3

Sample ID : 07L28853-2

Acquisition date : 14-JUN-2006 10:24:15

| It | Energy | Area | Bkgnd | FWHM | Channel | Left | Pw | Cts/Sec | %Err | %Eff | Flags |
|----|---------|------|-------|------|---------|------|----|----------|------|----------|-------|
| 1 | 139.93 | 94 | 359 | 1.04 | 280.54 | 277 | 8 | 7.04E-03 | 78.0 | 2.36E+00 | |
| 1 | 198.29 | 110 | 396 | 1.44 | 397.34 | 391 | 12 | 8.22E-03 | 79.3 | 2.25E+00 | |
| 2 | 241.92 | 92 | 193 | 1.63 | 484.67 | 474 | 15 | 6.88E-03 | 58.7 | 2.04E+00 | T |
| 1 | 351.93 | 81 | 157 | 1.37 | 704.82 | 699 | 10 | 6.07E-03 | 71.4 | 1.61E+00 | |
| 1 | 595.58 | 88 | 124 | 3.58 | 1192.33 | 1184 | 16 | 6.63E-03 | 60.6 | 1.10E+00 | |
| 1 | 609.41 | 147 | 82 | 1.85 | 1219.99 | 1214 | 11 | 1.10E-02 | 32.9 | 1.09E+00 | |
| 1 | 1420.73 | 29 | 10 | 3.97 | 2842.49 | 2837 | 10 | 2.15E-03 | 52.2 | 5.94E-01 | |
| 1 | 1764.71 | 28 | 11 | 2.98 | 3530.00 | 3521 | 14 | 2.13E-03 | 77.1 | 5.12E-01 | |

Flags: "T" = Tentatively associated

Summary of Nuclide Activity

| | | |
|---|---|--------|
| Total number of lines in spectrum | 9 | |
| Number of unidentified lines | 7 | |
| Number of lines tentatively identified by NID | 2 | 22.22% |

Nuclide Type : natural

| Nuclide | Hlife | Decay | Wtd Mean Uncorrected pCi/L | Wtd Mean Decay Corr pCi/L | Decay Corr 2-Sigma Error | 2-Sigma %Error | Flags |
|------------------|-----------|-------|----------------------------------|---------------------------------|-----------------------------|-------------------|-------|
| K-40 | 1.28E+09Y | 1.00 | 4.360E+01 | 4.360E+01 | 3.547E+01 | 81.36 | |
| Total Activity : | | | 4.360E+01 | 4.360E+01 | | | |

Grand Total Activity : 4.360E+01 4.360E+01

Flags: "K" = Keyline not found
 "E" = Manually edited

"M" = Manually accepted
 "A" = Nuclide specific abn. limit

Interference Report

No interference correction performed

Combined Activity-MDA Report

---- Identified Nuclides ----

| Nuclide | Activity (pCi/L) | Act error | MDA (pCi/L) | MDA error | Act/MDA |
|---------|---------------------|-----------|----------------|-----------|---------|
| K-40 | 4.360E+01 | 3.547E+01 | 4.086E+01 | 0.000E+00 | 1.067 |

---- Non-Identified Nuclides ----

| Nuclide | Key-Line Activity (pCi/L) | K.L. Ided | Act error | MDA (pCi/L) | MDA error | Act/MDA |
|---------|---------------------------------|--------------|-----------|---------------------|-----------|---------|
| BE-7 | -5.289E-01 | | 2.461E+01 | 4.003E+01 | 0.000E+00 | -0.013 |
| NA-24 | -5.630E-01 | | 2.511E+00 | Half-Life too short | | |
| CR-51 | -3.192E+00 | | 2.956E+01 | 4.903E+01 | 0.000E+00 | -0.065 |

| | | | | | |
|---------|------------|-----------|-----------|-----------|--------|
| MN-54 | 2.820E-01 | 2.534E+00 | 4.214E+00 | 0.000E+00 | 0.067 |
| CO-57 | 7.315E-01 | 2.530E+00 | 4.170E+00 | 0.000E+00 | 0.175 |
| CO-58 | -1.461E+00 | 2.809E+00 | 4.507E+00 | 0.000E+00 | -0.324 |
| FE-59 | 5.591E-01 | 5.986E+00 | 9.975E+00 | 0.000E+00 | 0.056 |
| CO-60 | 1.219E+00 | 2.363E+00 | 4.039E+00 | 0.000E+00 | 0.302 |
| ZN-65 | 2.323E+00 | 5.675E+00 | 9.638E+00 | 0.000E+00 | 0.241 |
| SE-75 | 1.629E+00 | 3.584E+00 | 5.944E+00 | 0.000E+00 | 0.274 |
| SR-85 | 2.126E+01 | 3.348E+00 | 6.704E+00 | 0.000E+00 | 3.171 |
| Y-88 | -5.072E-01 | 2.801E+00 | 4.552E+00 | 0.000E+00 | -0.111 |
| NB-94 | 7.120E-01 | 2.519E+00 | 4.174E+00 | 0.000E+00 | 0.171 |
| NB-95 | 3.543E-01 | 2.850E+00 | 4.768E+00 | 0.000E+00 | 0.074 |
| ZR-95 | -3.969E-01 | 5.102E+00 | 8.247E+00 | 0.000E+00 | -0.048 |
| MO-99 | 2.136E+02 | 5.004E+02 | 8.346E+02 | 0.000E+00 | 0.256 |
| RU-103 | 1.154E+00 | 3.230E+00 | 5.335E+00 | 0.000E+00 | 0.216 |
| RU-106 | 6.096E+00 | 2.464E+01 | 4.105E+01 | 0.000E+00 | 0.148 |
| AG-110m | 1.818E+00 | 2.372E+00 | 4.062E+00 | 0.000E+00 | 0.448 |
| SN-113 | -3.676E-01 | 3.360E+00 | 5.507E+00 | 0.000E+00 | -0.067 |
| SB-124 | -7.455E-01 | 6.769E+00 | 4.656E+00 | 0.000E+00 | -0.160 |
| SB-125 | -1.258E+00 | 7.551E+00 | 1.228E+01 | 0.000E+00 | -0.102 |
| TE-129M | -1.107E+00 | 3.676E+01 | 5.990E+01 | 0.000E+00 | -0.018 |
| I-131 | -1.719E+00 | 7.609E+00 | 1.247E+01 | 0.000E+00 | -0.138 |
| BA-133 | 9.254E+00 | 4.291E+00 | 6.706E+00 | 0.000E+00 | 1.380 |
| CS-134 | 6.709E+00 | 6.085E+00 | 5.155E+00 | 0.000E+00 | 1.301 |
| CS-136 | 1.590E+00 | 4.842E+00 | 8.167E+00 | 0.000E+00 | 0.195 |
| CS-137 | 8.561E-01 | 2.557E+00 | 4.272E+00 | 0.000E+00 | 0.200 |
| CE-139 | 1.139E+00 | 2.521E+00 | 4.259E+00 | 0.000E+00 | 0.268 |
| BA-140 | 1.473E+01 | 1.781E+01 | 3.072E+01 | 0.000E+00 | 0.479 |
| LA-140 | 6.218E+00 | 5.812E+00 | 1.041E+01 | 0.000E+00 | 0.597 |
| CE-141 | 1.301E+00 | 6.517E+00 | 9.063E+00 | 0.000E+00 | 0.144 |
| CE-144 | -1.874E+01 | 2.302E+01 | 3.077E+01 | 0.000E+00 | -0.609 |
| EU-152 | -1.529E+01 | 9.796E+00 | 1.255E+01 | 0.000E+00 | -1.218 |
| EU-154 | 1.766E+00 | 5.141E+00 | 8.483E+00 | 0.000E+00 | 0.208 |
| RA-226 | -1.619E+01 | 6.427E+01 | 1.057E+02 | 0.000E+00 | -0.153 |
| AC-228 | 1.270E+00 | 1.060E+01 | 1.725E+01 | 0.000E+00 | 0.074 |
| TH-228 | 2.749E+00 | 5.868E+00 | 8.556E+00 | 0.000E+00 | 0.321 |
| TH-232 | 1.264E+00 | 1.056E+01 | 1.718E+01 | 0.000E+00 | 0.074 |
| U-235 | 1.051E+01 | 2.323E+01 | 3.266E+01 | 0.000E+00 | 0.322 |
| U-238 | 2.097E+02 | 2.828E+02 | 4.842E+02 | 0.000E+00 | 0.433 |
| AM-241 | -4.227E+01 | 2.426E+01 | 3.700E+01 | 0.000E+00 | -1.142 |

A,07L28853-2 ,06/14/2006 14:06,06/01/2006 11:50, 3.084E+00,WG L28853-2 DR
 B,07L28853-2 ,LIBD ,06/07/2006 09:32,073L082504
 C,K-40 ,YES, 4.360E+01, 3.547E+01, 4.086E+01,, 1.067
 C,BE-7 ,NO , -5.289E-01, 2.461E+01, 4.003E+01,, -0.013
 C,CR-51 ,NO , -3.192E+00, 2.956E+01, 4.903E+01,, -0.065
 C,MN-54 ,NO , 2.820E-01, 2.534E+00, 4.214E+00,, 0.067
 C,CO-57 ,NO , 7.315E-01, 2.530E+00, 4.170E+00,, 0.175
 C,CO-58 ,NO , -1.461E+00, 2.809E+00, 4.507E+00,, -0.324
 C,FE-59 ,NO , 5.591E-01, 5.986E+00, 9.975E+00,, 0.056
 C,CO-60 ,NO , 1.219E+00, 2.363E+00, 4.039E+00,, 0.302
 C,ZN-65 ,NO , 2.323E+00, 5.675E+00, 9.638E+00,, 0.241
 C,SE-75 ,NO , 1.629E+00, 3.584E+00, 5.944E+00,, 0.274
 C,SR-85 ,NO , 2.126E+01, 3.348E+00, 6.704E+00,, 3.171
 C,Y-88 ,NO , -5.072E-01, 2.801E+00, 4.552E+00,, -0.111
 C,NB-94 ,NO , 7.120E-01, 2.519E+00, 4.174E+00,, 0.171
 C,NB-95 ,NO , 3.543E-01, 2.850E+00, 4.768E+00,, 0.074
 C,ZR-95 ,NO , -3.969E-01, 5.102E+00, 8.247E+00,, -0.048
 C,MO-99 ,NO , 2.136E+02, 5.004E+02, 8.346E+02,, 0.256
 C,RU-103 ,NO , 1.154E+00, 3.230E+00, 5.335E+00,, 0.216
 C,RU-106 ,NO , 6.096E+00, 2.464E+01, 4.105E+01,, 0.148
 C,AG-110m ,NO , 1.818E+00, 2.372E+00, 4.062E+00,, 0.448
 C,SN-113 ,NO , -3.676E-01, 3.360E+00, 5.507E+00,, -0.067
 C,SB-124 ,NO , -7.455E-01, 6.769E+00, 4.656E+00,, -0.160
 C,SB-125 ,NO , -1.258E+00, 7.551E+00, 1.228E+01,, -0.102
 C,TE-129M ,NO , -1.107E+00, 3.676E+01, 5.990E+01,, -0.018
 C,I-131 ,NO , -1.719E+00, 7.609E+00, 1.247E+01,, -0.138
 C,BA-133 ,NO , 9.254E+00, 4.291E+00, 6.706E+00,, 1.380
 C,CS-134 ,NO , 6.709E+00, 6.085E+00, 5.155E+00,, 1.301
 C,CS-136 ,NO , 1.590E+00, 4.842E+00, 8.167E+00,, 0.195
 C,CS-137 ,NO , 8.561E-01, 2.557E+00, 4.272E+00,, 0.200
 C,CE-139 ,NO , 1.139E+00, 2.521E+00, 4.259E+00,, 0.268
 C,BA-140 ,NO , 1.473E+01, 1.781E+01, 3.072E+01,, 0.479
 C,LA-140 ,NO , 6.218E+00, 5.812E+00, 1.041E+01,, 0.597
 C,CE-141 ,NO , 1.301E+00, 6.517E+00, 9.063E+00,, 0.144
 C,CE-144 ,NO , -1.874E+01, 2.302E+01, 3.077E+01,, -0.609
 C,EU-152 ,NO , -1.529E+01, 9.796E+00, 1.255E+01,, -1.218
 C,EU-154 ,NO , 1.766E+00, 5.141E+00, 8.483E+00,, 0.208
 C,RA-226 ,NO , -1.619E+01, 6.427E+01, 1.057E+02,, -0.153
 C,AC-228 ,NO , 1.270E+00, 1.060E+01, 1.725E+01,, 0.074
 C,TH-228 ,NO , 2.749E+00, 5.868E+00, 8.556E+00,, 0.321
 C,TH-232 ,NO , 1.264E+00, 1.056E+01, 1.718E+01,, 0.074
 C,U-235 ,NO , 1.051E+01, 2.323E+01, 3.266E+01,, 0.322
 C,U-238 ,NO , 2.097E+02, 2.828E+02, 4.842E+02,, 0.433
 C,AM-241 ,NO , -4.227E+01, 2.426E+01, 3.700E+01,, -1.142

Sec. Review: Analyst: LIMS: ✓

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VAX/VMS Teledyne Brown Eng. Laboratory Gamma Report: 14-JUN-2006 14:08:51.53

TBE13 P-10727B HpGe ***** Aquisition Date/Time: 14-JUN-2006 10:40:42.69

LIMS No., Customer Name, Client ID: WG L28853-3 DRESDEN

| | | | |
|---------------|-----------------|---------------|-----------------------|
| Sample ID | : 13L28853-3 | Smple Date: | 1-JUN-2006 14:10:00.0 |
| Sample Type | : WG | Geometry | : 133L082404 |
| Quantity | : 3.07530E+00 L | BKGFILE | : 13BG060306MT |
| Start Channel | : 25 | Energy Tol | : 1.50000 |
| End Channel | : 4090 | Pk Srch Sens: | 5.00000 |
| MDA Constant | : 0.00 | Library Used: | LIBD |
| | | Real Time | : 0 03:27:56.61 |
| | | Live time | : 0 03:27:53.21 |

| Pk | It | Energy | Area | Bkgnd | FWHM | Channel | %Eff | Cts/Sec | %Err | Fit |
|----|----|----------|------|-------|------|---------|----------|----------|-------|----------|
| 1 | 1 | 66.35 | 118 | 341 | 1.42 | 132.67 | 8.29E-01 | 9.45E-03 | 27.8 | 2.06E+00 |
| 2 | 1 | 76.99* | 18 | 237 | 0.88 | 153.95 | 1.24E+00 | 1.45E-03 | 147.7 | 9.54E-01 |
| 3 | 1 | 140.10* | 126 | 388 | 2.52 | 280.18 | 2.27E+00 | 1.01E-02 | 32.0 | 3.33E+00 |
| 4 | 1 | 185.90* | 19 | 365 | 1.89 | 371.77 | 2.18E+00 | 1.49E-03 | 223.9 | 4.07E+00 |
| 5 | 1 | 198.42* | 103 | 262 | 1.47 | 396.82 | 2.12E+00 | 8.27E-03 | 32.1 | 1.79E+00 |
| 6 | 1 | 351.56* | 47 | 103 | 1.39 | 703.13 | 1.51E+00 | 3.80E-03 | 46.4 | 3.27E+00 |
| 7 | 1 | 582.16* | 13 | 105 | 3.41 | 1164.46 | 1.04E+00 | 1.05E-03 | 189.2 | 1.67E+00 |
| 8 | 1 | 609.50* | 42 | 116 | 1.68 | 1219.16 | 1.01E+00 | 3.36E-03 | 61.2 | 1.86E+00 |
| 9 | 1 | 968.39* | 14 | 45 | 2.02 | 1937.29 | 7.02E-01 | 1.14E-03 | 104.5 | 4.66E+00 |
| 10 | 1 | 1765.33* | 21 | 8 | 3.69 | 3532.61 | 4.55E-01 | 1.71E-03 | 46.3 | 5.16E-01 |

Flag: "*" = Peak area was modified by background subtraction

Nuclide Line Activity Report

Nuclide Type: natural

| Nuclide | Energy | Area | %Abn | %Eff | Uncorrected pCi/L | Decay Corr pCi/L | 2-Sigma %Error |
|---------|--------|-------|--------|-----------|----------------------|---------------------|-------------------|
| RA-226 | 186.21 | 19 | 3.28* | 2.178E+00 | 1.829E+01 | 1.829E+01 | 447.85 |
| TH-232 | 583.14 | 13 | 30.25 | 1.041E+00 | 2.923E+00 | 2.923E+00 | 378.40 |
| | 911.07 | ----- | 27.70* | 7.361E-01 | ----- | Line Not Found | ----- |
| | 969.11 | 14 | 16.60 | 7.018E-01 | 8.606E+00 | 8.606E+00 | 208.94 |
| U-235 | 143.76 | ----- | 10.50* | 2.278E+00 | ----- | Line Not Found | ----- |
| | 163.35 | ----- | 4.70 | 2.256E+00 | ----- | Line Not Found | ----- |
| | 185.71 | 19 | 54.00 | 2.178E+00 | 1.111E+00 | 1.111E+00 | 447.85 |
| | 205.31 | ----- | 4.70 | 2.093E+00 | ----- | Line Not Found | ----- |

Flag: "*" = Keyline

Summary of Nuclide Activity
 Sample ID : 13L28853-3

Page : 2
 Acquisition date : 14-JUN-2006 10:40:42

Total number of lines in spectrum 10
 Number of unidentified lines 7
 Number of lines tentatively identified by NID 3 30.00%

Nuclide Type : natural

| Nuclide | Hlife | Decay | Uncorrected pCi/L | Decay Corr pCi/L | Decay Corr 2-Sigma Error | 2-Sigma %Error | Flags |
|------------------|-----------|-------|----------------------|---------------------|-----------------------------|-------------------|-------|
| RA-226 | 1600.00Y | 1.00 | 1.829E+01 | 1.829E+01 | 8.189E+01 | 447.85 | |
| TH-232 | 1.41E+10Y | 1.00 | 2.923E+00 | 2.923E+00 | 11.06E+00 | 378.40 | K |
| U-235 | 7.04E+08Y | 1.00 | 1.111E+00 | 1.111E+00 | 4.974E+00 | 447.85 | K |
| | | | ----- | ----- | | | |
| Total Activity : | | | 2.232E+01 | 2.232E+01 | | | |

Grand Total Activity : 2.232E+01 2.232E+01

Flags: "K" = Keyline not found
 "E" = Manually edited

"M" = Manually accepted
 "A" = Nuclide specific abn. limit

Unidentified Energy Lines

Page : 3

Sample ID : 13L28853-3

Acquisition date : 14-JUN-2006 10:40:42

| It | Energy | Area | Bkgnd | FWHM | Channel | Left | Pw | Cts/Sec | %Err | %Eff | Flags |
|----|---------|------|-------|------|---------|------|----|----------|------|----------|-------|
| 1 | 66.35 | 118 | 341 | 1.42 | 132.67 | 130 | 7 | 9.45E-03 | 55.7 | 8.29E-01 | |
| 1 | 76.99 | 18 | 237 | 0.88 | 153.95 | 148 | 9 | 1.45E-03 | **** | 1.24E+00 | |
| 1 | 140.10 | 126 | 388 | 2.52 | 280.18 | 275 | 10 | 1.01E-02 | 64.1 | 2.27E+00 | |
| 1 | 198.42 | 103 | 262 | 1.47 | 396.82 | 393 | 9 | 8.27E-03 | 64.2 | 2.12E+00 | |
| 1 | 351.56 | 47 | 103 | 1.39 | 703.13 | 700 | 7 | 3.80E-03 | 92.9 | 1.51E+00 | |
| 1 | 609.50 | 42 | 116 | 1.68 | 1219.16 | 1213 | 13 | 3.36E-03 | **** | 1.01E+00 | |
| 1 | 1765.33 | 21 | 8 | 3.69 | 3532.61 | 3526 | 15 | 1.71E-03 | 92.6 | 4.55E-01 | |

Flags: "T" = Tentatively associated

Summary of Nuclide Activity

Total number of lines in spectrum 10
 Number of unidentified lines 7
 Number of lines tentatively identified by NID 3 30.00%

Nuclide Type : natural

| Nuclide | Hlife | Decay | Wtd Mean Uncorrected pCi/L | Wtd Mean Decay Corr pCi/L | Decay Corr 2-Sigma Error | 2-Sigma %Error | Flags |
|------------------|-----------|-------|----------------------------------|---------------------------------|-----------------------------|-------------------|-------|
| RA-226 | 1600.00Y | 1.00 | 1.829E+01 | 1.829E+01 | 8.189E+01 | 447.85 | |
| TH-232 | 1.41E+10Y | 1.00 | 4.483E+00 | 4.483E+00 | 9.420E+00 | 210.16 | |
| Total Activity : | | | 2.277E+01 | 2.277E+01 | | | |

Grand Total Activity : 2.277E+01 2.277E+01

Flags: "K" = Keyline not found
 "E" = Manually edited

"M" = Manually accepted
 "A" = Nuclide specific abn. limit

Interference Report

No interference correction performed

Combined Activity-MDA Report

---- Identified Nuclides ----


| Nuclide | Activity (pCi/L) | Act error | MDA (pCi/L) | MDA error | Act/MDA |
|---------|---------------------|-----------|----------------|-----------|---------|
| RA-226 | 1.829E+01 | 8.189E+01 | 1.074E+02 | 0.000E+00 | 0.170 |
| TH-232 | 4.483E+00 | 9.420E+00 | 1.872E+01 | 0.000E+00 | 0.239 |

---- Non-Identified Nuclides ----

| Nuclide | Key-Line Activity (pCi/L) | K.L. Ided | Act error | MDA (pCi/L) | MDA error | Act/MDA |
|---------|---------------------------------|--------------|-----------|---------------------|-----------|---------|
| BE-7 | 1.894E+00 | | 2.726E+01 | 4.432E+01 | 0.000E+00 | 0.043 |
| NA-24 | -3.723E+00 | | 2.544E+00 | Half-Life too short | | |

| | | | | | |
|---------|------------|-----------|-----------|-----------|--------|
| K-40 | 4.415E+00 | 4.095E+01 | 7.770E+01 | 0.000E+00 | 0.057 |
| CR-51 | -3.417E+01 | 3.109E+01 | 4.958E+01 | 0.000E+00 | -0.689 |
| MN-54 | 1.268E+00 | 2.857E+00 | 4.826E+00 | 0.000E+00 | 0.263 |
| CO-57 | 8.564E-01 | 2.591E+00 | 4.289E+00 | 0.000E+00 | 0.200 |
| CO-58 | -1.962E+00 | 2.988E+00 | 4.700E+00 | 0.000E+00 | -0.417 |
| FE-59 | 3.192E+00 | 6.590E+00 | 1.121E+01 | 0.000E+00 | 0.285 |
| CO-60 | -8.671E-02 | 2.766E+00 | 4.560E+00 | 0.000E+00 | -0.019 |
| ZN-65 | 7.143E+00 | 6.315E+00 | 1.120E+01 | 0.000E+00 | 0.638 |
| SE-75 | -2.117E+00 | 3.819E+00 | 6.095E+00 | 0.000E+00 | -0.347 |
| SR-85 | 1.607E+01 | 3.592E+00 | 6.905E+00 | 0.000E+00 | 2.328 |
| Y-88 | -2.033E+00 | 3.247E+00 | 4.953E+00 | 0.000E+00 | -0.410 |
| NB-94 | 1.385E+00 | 2.723E+00 | 4.657E+00 | 0.000E+00 | 0.297 |
| NB-95 | 2.131E+00 | 3.228E+00 | 5.540E+00 | 0.000E+00 | 0.385 |
| ZR-95 | 1.507E+00 | 5.536E+00 | 9.313E+00 | 0.000E+00 | 0.162 |
| MO-99 | 6.542E+01 | 5.308E+02 | 8.866E+02 | 0.000E+00 | 0.074 |
| RU-103 | -1.273E+00 | 3.559E+00 | 5.825E+00 | 0.000E+00 | -0.219 |
| RU-106 | -2.115E+01 | 2.648E+01 | 4.131E+01 | 0.000E+00 | -0.512 |
| AG-110m | 2.369E+00 | 2.844E+00 | 4.858E+00 | 0.000E+00 | 0.488 |
| SN-113 | 2.307E+00 | 3.738E+00 | 6.310E+00 | 0.000E+00 | 0.366 |
| SB-124 | -7.033E+00 | 4.332E+00 | 5.288E+00 | 0.000E+00 | -1.330 |
| SB-125 | 4.289E+00 | 8.116E+00 | 1.358E+01 | 0.000E+00 | 0.316 |
| TE-129M | 6.227E+00 | 3.830E+01 | 6.276E+01 | 0.000E+00 | 0.099 |
| I-131 | -1.982E+00 | 8.022E+00 | 1.310E+01 | 0.000E+00 | -0.151 |
| BA-133 | 2.141E+00 | 4.376E+00 | 6.336E+00 | 0.000E+00 | 0.338 |
| CS-134 | -3.793E+00 | 3.904E+00 | 5.043E+00 | 0.000E+00 | -0.752 |
| CS-136 | -3.287E+00 | 5.153E+00 | 8.104E+00 | 0.000E+00 | -0.406 |
| CS-137 | -1.700E+00 | 3.215E+00 | 4.925E+00 | 0.000E+00 | -0.345 |
| CE-139 | -2.089E-01 | 2.840E+00 | 4.566E+00 | 0.000E+00 | -0.046 |
| BA-140 | -3.446E+00 | 1.881E+01 | 3.083E+01 | 0.000E+00 | -0.112 |
| LA-140 | -5.191E-01 | 6.213E+00 | 1.002E+01 | 0.000E+00 | -0.052 |
| CE-141 | 7.504E+00 | 6.578E+00 | 9.607E+00 | 0.000E+00 | 0.781 |
| CE-144 | 5.126E+00 | 2.381E+01 | 3.358E+01 | 0.000E+00 | 0.153 |
| EU-152 | -8.753E+00 | 9.633E+00 | 1.375E+01 | 0.000E+00 | -0.637 |
| EU-154 | -6.913E-01 | 5.363E+00 | 8.750E+00 | 0.000E+00 | -0.079 |
| AC-228 | -1.997E+00 | 1.195E+01 | 1.880E+01 | 0.000E+00 | -0.106 |
| TH-228 | 4.172E-01 | 5.452E+00 | 8.903E+00 | 0.000E+00 | 0.047 |
| U-235 | 1.491E+00 | 2.432E+01 | 3.362E+01 | 0.000E+00 | 0.044 |
| U-238 | -2.059E+02 | 3.461E+02 | 5.340E+02 | 0.000E+00 | -0.386 |
| AM-241 | -4.500E+01 | 2.395E+01 | 3.638E+01 | 0.000E+00 | -1.237 |

A,13L28853-3 ,06/14/2006 14:08,06/01/2006 14:10, 3.075E+00,WG L28853-3 DR
 B,13L28853-3 ,LIBD ,06/13/2006 09:43,133L082404
 C,RA-226 ,YES, 1.829E+01, 8.189E+01, 1.074E+02,, 0.170
 C,TH-232 ,YES, 4.483E+00, 9.420E+00, 1.872E+01,, 0.239
 C,BE-7 ,NO , 1.894E+00, 2.726E+01, 4.432E+01,, 0.043
 C,K-40 ,NO , 4.415E+00, 4.095E+01, 7.770E+01,, 0.057
 C,CR-51 ,NO , -3.417E+01, 3.109E+01, 4.958E+01,, -0.689
 C,MN-54 ,NO , 1.268E+00, 2.857E+00, 4.826E+00,, 0.263
 C,CO-57 ,NO , 8.564E-01, 2.591E+00, 4.289E+00,, 0.200
 C,CO-58 ,NO , -1.962E+00, 2.988E+00, 4.700E+00,, -0.417
 C,FE-59 ,NO , 3.192E+00, 6.590E+00, 1.121E+01,, 0.285
 C,CO-60 ,NO , -8.671E-02, 2.766E+00, 4.560E+00,, -0.019
 C,ZN-65 ,NO , 7.143E+00, 6.315E+00, 1.120E+01,, 0.638
 C,SE-75 ,NO , -2.117E+00, 3.819E+00, 6.095E+00,, -0.347
 C,SR-85 ,NO , 1.607E+01, 3.592E+00, 6.905E+00,, 2.328
 C,Y-88 ,NO , -2.033E+00, 3.247E+00, 4.953E+00,, -0.410
 C,NB-94 ,NO , 1.385E+00, 2.723E+00, 4.657E+00,, 0.297
 C,NB-95 ,NO , 2.131E+00, 3.228E+00, 5.540E+00,, 0.385
 C,ZR-95 ,NO , 1.507E+00, 5.536E+00, 9.313E+00,, 0.162
 C,MO-99 ,NO , 6.542E+01, 5.308E+02, 8.866E+02,, 0.074
 C,RU-103 ,NO , -1.273E+00, 3.559E+00, 5.825E+00,, -0.219
 C,RU-106 ,NO , -2.115E+01, 2.648E+01, 4.131E+01,, -0.512
 C,AG-110m ,NO , 2.369E+00, 2.844E+00, 4.858E+00,, 0.488
 C,SN-113 ,NO , 2.307E+00, 3.738E+00, 6.310E+00,, 0.366
 C,SB-124 ,NO , -7.033E+00, 4.332E+00, 5.288E+00,, -1.330
 C,SB-125 ,NO , 4.289E+00, 8.116E+00, 1.358E+01,, 0.316
 C,TE-129M ,NO , 6.227E+00, 3.830E+01, 6.276E+01,, 0.099
 C,I-131 ,NO , -1.982E+00, 8.022E+00, 1.310E+01,, -0.151
 C,BA-133 ,NO , 2.141E+00, 4.376E+00, 6.336E+00,, 0.338
 C,CS-134 ,NO , -3.793E+00, 3.904E+00, 5.043E+00,, -0.752
 C,CS-136 ,NO , -3.287E+00, 5.153E+00, 8.104E+00,, -0.406
 C,CS-137 ,NO , -1.700E+00, 3.215E+00, 4.925E+00,, -0.345
 C,CE-139 ,NO , -2.089E-01, 2.840E+00, 4.566E+00,, -0.046
 C,BA-140 ,NO , -3.446E+00, 1.881E+01, 3.083E+01,, -0.112
 C,LA-140 ,NO , -5.191E-01, 6.213E+00, 1.002E+01,, -0.052
 C,CE-141 ,NO , 7.504E+00, 6.578E+00, 9.607E+00,, 0.781
 C,CE-144 ,NO , 5.126E+00, 2.381E+01, 3.358E+01,, 0.153
 C,EU-152 ,NO , -8.753E+00, 9.633E+00, 1.375E+01,, -0.637
 C,EU-154 ,NO , -6.913E-01, 5.363E+00, 8.750E+00,, -0.079
 C,AC-228 ,NO , -1.997E+00, 1.195E+01, 1.880E+01,, -0.106
 C,TH-228 ,NO , 4.172E-01, 5.452E+00, 8.903E+00,, 0.047
 C,U-235 ,NO , 1.491E+00, 2.432E+01, 3.362E+01,, 0.044
 C,U-238 ,NO , -2.059E+02, 3.461E+02, 5.340E+02,, -0.386
 C,AM-241 ,NO , -4.500E+01, 2.395E+01, 3.638E+01,, -1.237

Sec. Review: Analyst: LIMS: 

VAX/VMS Teledyne Brown Eng. Laboratory Gamma Report: 14-JUN-2006 14:45:32.48
 TBE23 03017322 HpGe ***** Aquisition Date/Time: 14-JUN-2006 11:13:08.64

LIMS No., Customer Name, Client ID: WG L28853-4 DRESDEN

Sample ID : 23L28853-4 Smple Date: 1-JUN-2006 15:10:00.0
 Sample Type : WG Geometry : 233L082404
 Quantity : 3.05620E+00 L BKGFILE : 23BG060306MT
 Start Channel : 50 Energy Tol : 1.50000 Real Time : 0 03:30:08.44
 End Channel : 4090 Pk Srch Sens: 5.00000 Live time : 0 03:30:00.00
 MDA Constant : 0.00 Library Used: LIBD

| Pk | It | Energy | Area | Bkgnd | FWHM | Channel | %Eff | Cts/Sec | %Err | Fit |
|----|----|----------|------|-------|------|---------|----------|----------|-------|----------|
| 1 | 4 | 33.74* | 69 | 7 | 1.24 | 67.81 | 8.18E-02 | 5.49E-03 | 24.5 | 3.97E+00 |
| 2 | 4 | 37.24* | 33 | 92 | 1.62 | 74.79 | 1.43E-01 | 2.64E-03 | 96.9 | |
| 3 | 4 | 39.46* | 30 | 151 | 1.77 | 79.23 | 1.92E-01 | 2.41E-03 | 107.6 | |
| 4 | 4 | 43.26* | 35 | 225 | 1.78 | 86.84 | 2.95E-01 | 2.75E-03 | 95.9 | |
| 5 | 4 | 45.91* | 6 | 293 | 1.79 | 92.13 | 3.78E-01 | 4.48E-04 | 591.0 | |
| 6 | 4 | 47.32* | 28 | 269 | 1.78 | 94.94 | 4.26E-01 | 2.22E-03 | 104.4 | |
| 7 | 0 | 185.91* | 87 | 414 | 0.95 | 371.92 | 2.17E+00 | 6.93E-03 | 49.5 | |
| 8 | 0 | 198.27* | 78 | 321 | 1.07 | 396.62 | 2.11E+00 | 6.21E-03 | 44.0 | |
| 9 | 0 | 238.44* | 45 | 329 | 1.21 | 476.92 | 1.90E+00 | 3.59E-03 | 82.6 | |
| 10 | 0 | 351.54* | 45 | 212 | 0.92 | 702.99 | 1.44E+00 | 3.57E-03 | 71.4 | |
| 11 | 0 | 583.07* | 26 | 71 | 0.92 | 1165.84 | 9.71E-01 | 2.10E-03 | 70.7 | |
| 12 | 0 | 609.39* | 42 | 97 | 1.47 | 1218.46 | 9.40E-01 | 3.34E-03 | 58.3 | |
| 13 | 0 | 910.95* | 44 | 47 | 1.70 | 1821.44 | 7.08E-01 | 3.47E-03 | 41.8 | |
| 14 | 0 | 1765.39* | 7 | 14 | 2.32 | 3530.69 | 4.37E-01 | 5.71E-04 | 151.4 | |

Flag: "*" = Peak area was modified by background subtraction

Nuclide Line Activity Report

Nuclide Type: natural

| Nuclide | Energy | Area | %Abn | %Eff | Uncorrected pCi/L | Decay Corr pCi/L | 2-Sigma %Error |
|---------|--------|-------|--------|-----------|----------------------|---------------------|-------------------|
| RA-226 | 186.21 | 87 | 3.28* | 2.173E+00 | 8.594E+01 | 8.594E+01 | 98.92 |
| AC-228 | 835.50 | ----- | 1.75 | 7.515E-01 | ----- | Line Not Found | ----- |
| | 911.07 | 44 | 27.70* | 7.084E-01 | 1.566E+01 | 1.572E+01 | 83.54 |
| TH-228 | 238.63 | 45 | 44.60* | 1.901E+00 | 3.748E+00 | 3.796E+00 | 165.24 |
| | 240.98 | ----- | 3.95 | 1.888E+00 | ----- | Line Not Found | ----- |
| TH-232 | 583.14 | 26 | 30.25 | 9.714E-01 | 6.319E+00 | 6.319E+00 | 141.40 |
| | 911.07 | 44 | 27.70* | 7.084E-01 | 1.566E+01 | 1.566E+01 | 83.54 |
| | 969.11 | ----- | 16.60 | 6.793E-01 | ----- | Line Not Found | ----- |

Flag: "*" = Keyline

Summary of Nuclide Activity

Page : 2

Sample ID : 23L28853-4

Acquisition date : 14-JUN-2006 11:13:08

| | | |
|---|----|--------|
| Total number of lines in spectrum | 14 | |
| Number of unidentified lines | 10 | |
| Number of lines tentatively identified by NID | 4 | 28.57% |

Nuclide Type : natural

| Nuclide | Hlife | Decay | Uncorrected pCi/L | Decay Corr pCi/L | Decay Corr 2-Sigma Error | 2-Sigma %Error | Flags |
|------------------|-----------|-------|----------------------|---------------------|-----------------------------|-------------------|-------|
| RA-226 | 1600.00Y | 1.00 | 8.594E+01 | 8.594E+01 | 8.501E+01 | 98.92 | |
| AC-228 | 5.75Y | 1.00 | 1.566E+01 | 1.572E+01 | 1.314E+01 | 83.54 | |
| TH-228 | 1.91Y | 1.01 | 3.748E+00 | 3.796E+00 | 6.272E+00 | 165.24 | |
| TH-232 | 1.41E+10Y | 1.00 | 1.566E+01 | 1.566E+01 | 1.308E+01 | 83.54 | |
| | | | ----- | ----- | | | |
| Total Activity : | | | 1.210E+02 | 1.211E+02 | | | |

| | | |
|------------------------|-----------|-----------|
| Grand Total Activity : | 1.210E+02 | 1.211E+02 |
|------------------------|-----------|-----------|

Flags: "K" = Keyline not found
 "E" = Manually edited

"M" = Manually accepted
 "A" = Nuclide specific abn. limit

Unidentified Energy Lines
Sample ID : 23L28853-4

Page : 3
Acquisition date : 14-JUN-2006 11:13:08

| It | Energy | Area | Bkgnd | FWHM | Channel | Left | Pw | Cts/Sec | %Err | %Eff | Flags |
|----|---------|------|-------|------|---------|------|----|----------|------|----------|-------|
| 4 | 33.74 | 69 | 7 | 1.24 | 67.81 | 65 | 35 | 5.49E-03 | 48.9 | 8.18E-02 | |
| 4 | 37.24 | 33 | 92 | 1.62 | 74.79 | 65 | 35 | 2.64E-03 | **** | 1.43E-01 | |
| 4 | 39.46 | 30 | 151 | 1.77 | 79.23 | 65 | 35 | 2.41E-03 | **** | 1.92E-01 | |
| 4 | 43.26 | 35 | 225 | 1.78 | 86.84 | 65 | 35 | 2.75E-03 | **** | 2.95E-01 | |
| 4 | 45.91 | 6 | 293 | 1.79 | 92.13 | 65 | 35 | 4.48E-04 | **** | 3.78E-01 | |
| 4 | 47.32 | 28 | 269 | 1.78 | 94.94 | 65 | 35 | 2.22E-03 | **** | 4.26E-01 | |
| 0 | 198.27 | 78 | 321 | 1.07 | 396.62 | 393 | 8 | 6.21E-03 | 88.0 | 2.11E+00 | |
| 0 | 351.54 | 45 | 212 | 0.92 | 702.99 | 697 | 12 | 3.57E-03 | **** | 1.44E+00 | |
| 0 | 609.39 | 42 | 97 | 1.47 | 1218.46 | 1211 | 14 | 3.34E-03 | **** | 9.40E-01 | |
| 0 | 1765.39 | 7 | 14 | 2.32 | 3530.69 | 3525 | 13 | 5.71E-04 | **** | 4.37E-01 | |

Flags: "T" = Tentatively associated

Summary of Nuclide Activity

| | |
|---|-------------------------------|
| Total number of lines in spectrum | 14 |
| Number of unidentified lines | 10 |
| Number of lines tentatively identified by NID | 4 28.57% |

Nuclide Type : natural

| Nuclide | Hlife | Decay | Wtd Mean | Wtd Mean | Decay Corr | 2-Sigma | Flags |
|------------------|-----------|-------|-------------|------------|---------------|---------|-------|
| | | | Uncorrected | Decay Corr | 2-Sigma Error | %Error | |
| | | | pCi/L | pCi/L | | | |
| RA-226 | 1600.00Y | 1.00 | 8.594E+01 | 8.594E+01 | 8.501E+01 | 98.92 | |
| AC-228 | 5.75Y | 1.00 | 9.338E+00 | 9.378E+00 | 15.91E+00 | 169.62 | |
| TH-228 | 1.91Y | 1.01 | 3.748E+00 | 3.796E+00 | 6.272E+00 | 165.24 | |
| TH-232 | 1.41E+10Y | 1.00 | 6.319E+00 | 6.319E+00 | 8.934E+00 | 141.40 | |
| Total Activity : | | | 1.053E+02 | 1.054E+02 | | | |

Grand Total Activity : 1.053E+02 1.054E+02

Flags: "K" = Keyline not found "M" = Manually accepted
 "E" = Manually edited "A" = Nuclide specific abn. limit

Interference Report

| Interfering | | Interfered | |
|-------------|--------|------------|--------|
| Nuclide | Line | Nuclide | Line |
| TH-232 | 911.07 | AC-228 | 911.07 |

Combined Activity-MDA Report

---- Identified Nuclides ----

| Nuclide | Activity (pCi/L) | Act error | MDA (pCi/L) | MDA error | Act/MDA |
|---------|---------------------|-----------|----------------|-----------|---------|
| RA-226 | 8.594E+01 | 8.501E+01 | 1.255E+02 | 0.000E+00 | 0.685 |
| AC-228 | 9.378E+00 | 1.591E+01 | 1.704E+01 | 0.000E+00 | 0.550 |
| TH-228 | 3.796E+00 | 6.272E+00 | 9.724E+00 | 0.000E+00 | 0.390 |

| | | | | | |
|--------|-----------|-----------|-----------|-----------|-------|
| TH-232 | 6.319E+00 | 8.934E+00 | 1.927E+01 | 0.000E+00 | 0.328 |
|--------|-----------|-----------|-----------|-----------|-------|

----- Non-Identified Nuclides -----

| Nuclide | Key-Line Activity (pCi/L) | K.L. Ided | Act error | MDA (pCi/L) | MDA error | Act/MDA |
|---------|---------------------------------|--------------|-----------|---------------------|-----------|---------|
| BE-7 | 2.750E+01 | | 2.963E+01 | 5.245E+01 | 0.000E+00 | 0.524 |
| NA-24 | -2.808E+00 | | 2.365E+00 | Half-Life too short | | |
| K-40 | -2.652E+01 | | 4.269E+01 | 8.438E+01 | 0.000E+00 | -0.314 |
| CR-51 | -1.136E+01 | | 3.524E+01 | 5.944E+01 | 0.000E+00 | -0.191 |
| MN-54 | 1.292E+00 | | 2.845E+00 | 5.065E+00 | 0.000E+00 | 0.255 |
| CO-57 | 4.660E-01 | | 3.246E+00 | 5.477E+00 | 0.000E+00 | 0.085 |
| CO-58 | 5.458E-01 | | 3.164E+00 | 5.535E+00 | 0.000E+00 | 0.099 |
| FE-59 | 9.474E-01 | | 6.557E+00 | 1.163E+01 | 0.000E+00 | 0.081 |
| CO-60 | 1.292E+00 | | 2.800E+00 | 5.137E+00 | 0.000E+00 | 0.251 |
| ZN-65 | 6.162E+00 | | 6.030E+00 | 1.135E+01 | 0.000E+00 | 0.543 |
| SE-75 | -1.784E+00 | | 4.321E+00 | 7.299E+00 | 0.000E+00 | -0.244 |
| SR-85 | 1.820E+01 | | 3.835E+00 | 7.570E+00 | 0.000E+00 | 2.404 |
| Y-88 | 1.977E+00 | | 3.249E+00 | 6.195E+00 | 0.000E+00 | 0.319 |
| NB-94 | -1.100E+00 | | 2.792E+00 | 4.727E+00 | 0.000E+00 | -0.233 |
| NB-95 | -1.736E-01 | | 3.185E+00 | 5.496E+00 | 0.000E+00 | -0.032 |
| ZR-95 | 4.354E-01 | | 5.507E+00 | 9.603E+00 | 0.000E+00 | 0.045 |
| MO-99 | 3.034E+02 | | 5.264E+02 | 9.462E+02 | 0.000E+00 | 0.321 |
| RU-103 | -1.283E+00 | | 3.683E+00 | 6.144E+00 | 0.000E+00 | -0.209 |
| RU-106 | 1.007E+01 | | 2.717E+01 | 4.763E+01 | 0.000E+00 | 0.211 |
| AG-110m | -2.338E-01 | | 2.837E+00 | 4.910E+00 | 0.000E+00 | -0.048 |
| SN-113 | -1.772E+00 | | 4.122E+00 | 6.896E+00 | 0.000E+00 | -0.257 |
| SB-124 | -5.751E+00 | | 4.117E+00 | 5.385E+00 | 0.000E+00 | -1.068 |
| SB-125 | 2.780E-01 | | 8.556E+00 | 1.459E+01 | 0.000E+00 | 0.019 |
| TE-129M | -1.360E+01 | | 4.215E+01 | 7.060E+01 | 0.000E+00 | -0.193 |
| I-131 | -8.979E+00 | | 8.968E+00 | 1.467E+01 | 0.000E+00 | -0.612 |
| BA-133 | 5.653E+00 | | 4.792E+00 | 7.381E+00 | 0.000E+00 | 0.766 |
| CS-134 | -1.104E+00 | | 3.835E+00 | 5.483E+00 | 0.000E+00 | -0.201 |
| CS-136 | -5.703E+00 | | 5.152E+00 | 8.248E+00 | 0.000E+00 | -0.691 |
| CS-137 | 1.149E+00 | | 3.080E+00 | 5.462E+00 | 0.000E+00 | 0.210 |
| CE-139 | -2.166E+00 | | 3.327E+00 | 5.474E+00 | 0.000E+00 | -0.396 |
| BA-140 | 7.866E+00 | | 2.126E+01 | 3.673E+01 | 0.000E+00 | 0.214 |
| LA-140 | 1.112E+01 | | 6.213E+00 | 1.280E+01 | 0.000E+00 | 0.868 |
| CE-141 | -6.072E+00 | | 7.302E+00 | 1.200E+01 | 0.000E+00 | -0.506 |
| CE-144 | -2.525E+01 | | 2.557E+01 | 4.197E+01 | 0.000E+00 | -0.602 |
| EU-152 | -1.242E+01 | | 1.215E+01 | 1.654E+01 | 0.000E+00 | -0.751 |
| EU-154 | -7.881E-01 | | 6.613E+00 | 1.109E+01 | 0.000E+00 | -0.071 |
| U-235 | -1.979E+01 | | 2.663E+01 | 4.275E+01 | 0.000E+00 | -0.463 |
| U-238 | -2.375E+02 | | 3.435E+02 | 5.536E+02 | 0.000E+00 | -0.429 |
| AM-241 | 7.234E+00 | | 1.798E+01 | 2.999E+01 | 0.000E+00 | 0.241 |

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A,23L28853-4      ,06/14/2006 14:45,06/01/2006 15:10,    3.056E+00,WG L28853-4 DR
B,23L28853-4      ,LIBD      ,06/01/2006 10:14,233L082404
C,RA-226    ,YES,    8.594E+01,    8.501E+01,    1.255E+02,,    0.685
C,AC-228    ,YES,    9.378E+00,    1.591E+01,    1.704E+01,,    0.550
C,TH-228    ,YES,    3.796E+00,    6.272E+00,    9.724E+00,,    0.390
C,TH-232    ,YES,    6.319E+00,    8.934E+00,    1.927E+01,,    0.328
C,BE-7      ,NO ,    2.750E+01,    2.963E+01,    5.245E+01,,    0.524
C,K-40      ,NO ,   -2.652E+01,    4.269E+01,    8.438E+01,,   -0.314
C,CR-51     ,NO ,   -1.136E+01,    3.524E+01,    5.944E+01,,   -0.191
C,MN-54     ,NO ,    1.292E+00,    2.845E+00,    5.065E+00,,    0.255
C,CO-57     ,NO ,    4.660E-01,    3.246E+00,    5.477E+00,,    0.085
C,CO-58     ,NO ,    5.458E-01,    3.164E+00,    5.535E+00,,    0.099
C,FE-59     ,NO ,    9.474E-01,    6.557E+00,    1.163E+01,,    0.081
C,CO-60     ,NO ,    1.292E+00,    2.800E+00,    5.137E+00,,    0.251
C,ZN-65     ,NO ,    6.162E+00,    6.030E+00,    1.135E+01,,    0.543
C,SE-75     ,NO ,   -1.784E+00,    4.321E+00,    7.299E+00,,   -0.244
C,SR-85     ,NO ,    1.820E+01,    3.835E+00,    7.570E+00,,    2.404
C,Y-88      ,NO ,    1.977E+00,    3.249E+00,    6.195E+00,,    0.319
C,NB-94     ,NO ,   -1.100E+00,    2.792E+00,    4.727E+00,,   -0.233
C,NB-95     ,NO ,   -1.736E-01,    3.185E+00,    5.496E+00,,   -0.032
C,ZR-95     ,NO ,    4.354E-01,    5.507E+00,    9.603E+00,,    0.045
C,MO-99     ,NO ,    3.034E+02,    5.264E+02,    9.462E+02,,    0.321
C,RU-103    ,NO ,   -1.283E+00,    3.683E+00,    6.144E+00,,   -0.209
C,RU-106    ,NO ,    1.007E+01,    2.717E+01,    4.763E+01,,    0.211
C,AG-110m   ,NO ,   -2.338E-01,    2.837E+00,    4.910E+00,,   -0.048
C,SN-113    ,NO ,   -1.772E+00,    4.122E+00,    6.896E+00,,   -0.257
C,SB-124    ,NO ,   -5.751E+00,    4.117E+00,    5.385E+00,,   -1.068
C,SB-125    ,NO ,    2.780E-01,    8.556E+00,    1.459E+01,,    0.019
C,TE-129M   ,NO ,   -1.360E+01,    4.215E+01,    7.060E+01,,   -0.193
C,I-131     ,NO ,   -8.979E+00,    8.968E+00,    1.467E+01,,   -0.612
C,BA-133    ,NO ,    5.653E+00,    4.792E+00,    7.381E+00,,    0.766
C,CS-134    ,NO ,   -1.104E+00,    3.835E+00,    5.483E+00,,   -0.201
C,CS-136    ,NO ,   -5.703E+00,    5.152E+00,    8.248E+00,,   -0.691
C,CS-137    ,NO ,    1.149E+00,    3.080E+00,    5.462E+00,,    0.210
C,CE-139    ,NO ,   -2.166E+00,    3.327E+00,    5.474E+00,,   -0.396
C,BA-140    ,NO ,    7.866E+00,    2.126E+01,    3.673E+01,,    0.214
C,LA-140    ,NO ,    1.112E+01,    6.213E+00,    1.280E+01,,    0.868
C,CE-141    ,NO ,   -6.072E+00,    7.302E+00,    1.200E+01,,   -0.506
C,CE-144    ,NO ,   -2.525E+01,    2.557E+01,    4.197E+01,,   -0.602
C,EU-152    ,NO ,   -1.242E+01,    1.215E+01,    1.654E+01,,   -0.751
C,EU-154    ,NO ,   -7.881E-01,    6.613E+00,    1.109E+01,,   -0.071
C,U-235     ,NO ,   -1.979E+01,    2.663E+01,    4.275E+01,,   -0.463
C,U-238     ,NO ,   -2.375E+02,    3.435E+02,    5.536E+02,,   -0.429
C,AM-241    ,NO ,    7.234E+00,    1.798E+01,    2.999E+01,,    0.241

```



2508 Quality Lane
Knoxville, TN 37931
865-690-6819 (Phone)

Work Order #: L28821

Exelon

June 12, 2006



TELEDYNE
BROWN ENGINEERING, INC.
 A Teledyne Technologies Company
 2508 Quality Lane
 Knoxville, TN 37931-3133

Kathy Shaw
 Conestoga-Rovers & Associates
 45 Farmington Valley Road
 Plainville CT 06062

Case Narrative - L28821
EX001-3ESPDRES-06

06/12/2006 10:35

Sample Receipt

The following samples were received on June 2, 2006 in good condition, unless otherwise noted.

Cross Reference Table

| Client ID | Laboratory ID | Station ID(if applicable) |
|--------------------------------|---------------|---------------------------|
| WG-DN-DSP-121-052606-JH-014 | L28821-1 | |
| WG-DN-DSP-117-052606-JH-015 | L28821-2 | |
| WG-DN-DSP-148-053006-JH-017 | L28821-3 | |
| WG-DN-DSP-156-053006-JH-018 | L28821-4 | |
| WG-DN-DSP-DN-118-052506-JL-057 | L28821-5 | |
| WG-DN-DSP-DN-155-052506-JL-058 | L28821-6 | |
| WG-DN-DSP-DN-122-052506-JL-059 | L28821-7 | |
| WG-DN-DSP-DN-127-053006-JL-066 | L28821-8 | |

Analytical Method Cross Reference Table

| Radiological Parameter | TBE Knoxville Method | Reference Method |
|------------------------|----------------------|------------------|
| Gamma Spectrometry | TBE-2007 | EPA 901.1 |
| H-3 | TBE-2010 | EPA 906.0 |
| TOTAL SR | TBE-2018 | EPA 905.0 |



TELEDYNE
BROWN ENGINEERING, INC.
A Teledyne Technologies Company
2508 Quality Lane
Knoxville, TN 37931-3133

Case Narrative - L28821
EX001-3ESPDRES-06

06/12/2006 10:35

Gamma Spectroscopy

Quality Control

Quality control samples were analyzed as WG4095.

Duplicate Sample

Duplicates were analyzed for the following samples. All duplicate results were within acceptance limits, unless otherwise noted.

| <u>Client ID</u> | <u>Laboratory ID</u> | <u>QC Sample #</u> |
|---------------------------------|----------------------|--------------------|
| WG-DN-DSP-121- 052606-JH-014 | L28821-1 | WG4095-3 |

H-3

Quality Control

Quality control samples were analyzed as WG4106.

Method Blank

All blanks were within acceptance limits, unless otherwise noted.

Laboratory Control Sample

All laboratory control samples were within acceptance limits, unless otherwise noted.

Duplicate Sample

Duplicates were analyzed for the following samples. All duplicate results were within acceptance limits, unless otherwise noted.

| <u>Client ID</u> | <u>Laboratory ID</u> | <u>QC Sample #</u> |
|------------------------------------|----------------------|--------------------|
| WG-LS-MW-LS-109S- 052606-NK-021 | L28801-11 | WG4106-3 |



Case Narrative - L28821
EX001-3ESPDRES-06

06/12/2006 10:35

TOTAL SR

Quality Control

Quality control samples were analyzed as WG4133.

Method Blank

All blanks were within acceptance limits, unless otherwise noted.

Laboratory Control Sample

All laboratory control samples were within acceptance limits, unless otherwise noted.

Duplicate Sample

Duplicates were analyzed for the following samples. All duplicate results were within acceptance limits, unless otherwise noted.

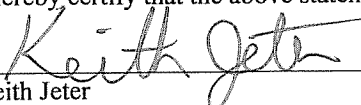
| <u>Client ID</u> | <u>Laboratory ID</u> | <u>QC Sample #</u> |
|---------------------------------|----------------------|--------------------|
| WG-DN-DSP-121- 052606-JH-014 | L28821-1 | WG4133-4 |

Certification

This is to certify that Teledyne Brown Engineering - Environmental Services, located at 2508 Quality Lane, Knoxville, Tennessee, 37931, has analyzed, tested and documented samples as specified in the applicable purchase order.

This also certifies that requirements of applicable codes, standards and specifications have been fully met and that any quality assurance documentation which verified conformance to the purchase order is on file and may be examined upon request.

I hereby certify that the above statements are true and correct.



Keith Jeter
Operations Manager

Sample Receipt Summary

06/02/06 12:43

Teledyne Brown Engineering
Sample Receipt Verification/Variance Report

SR #: SR08689

Client: Exelon

Project #: EX001-3ESPDRES-06

LIMS #: L28821

Initiated By: PMARSHALL

Init Date: 06/02/06 Receive Date: 06/02/06

Notification of Variance

Person Notified:

Contacted By:

Notify Date:

Notify Method:

Notify Comment:

Client Response

Person Responding:

Response Date:

Response Method:

Response Comment

| Criteria | Yes | No | NA | Comment |
|--|-----|----|----|------------------|
| 1 Shipping container custody seals present and intact. | | | NA | |
| 2 Sample container custody seals present and intact. | | | NA | |
| 3 Sample containers received in good condition | Y | | | |
| 4 Chain of custody received with samples | Y | | | |
| 5 All samples listed on chain of custody received | Y | | | |
| 6 Sample container labels present and legible. | Y | | | |
| 7 Information on container labels correspond with chain of custody | Y | | | |
| 8 Sample(s) properly preserved and in appropriate container(s) | Y | | | Ph at or below 2 |
| 9 Other (Describe) | | | NA | |

1288219 of 82

6/6/06

TELEDYNE BROWN ENGINEERING
2508 Quality Lane
Knoxville, TN 37931-3133

ACKNOWLEDGEMENT
This is not an invoice

June 06, 2006

Kathy Shaw
Conestoga-Rovers & Associates
45 Farmington Valley Road
Plainville, CT 06062

The following sample(s) were received at Teledyne Brown Engineering Knoxville laboratory on June 02, 2006. The sample(s) have been scheduled for the analyses listed below and the report is scheduled for completion by June 09, 2006. Please review the following login information and pricing. Contact me if anything is incorrect or you have questions about the status of your sample(s).

Thank you for choosing Teledyne Brown Engineering for your analytical needs.

Sincerely,
Rebecca Charles
Project Manager
(865) 934-0379

Project ID: EX001-3ESPDRES-06
P.O. #: 00411203
Release #:
Contract#: 00411203
Kathy Shaw, FAX#: 860-747-1900, larry.walton@exeloncorp.com

| Client ID/ Station | Laboratory ID Analysis | Vol/Units Price | Start Collect Date/Time | End Collect Date/Time |
|------------------------------|---------------------------|--------------------|----------------------------|--------------------------|
| WG-DN-DSP-121-052606-JH-014 | L28821-1 | | 05/26/06:1520 | |
| WG | GELI | 108.00 | | |
| WG | H-3 | 108.00 | | |
| WG | SR-90 (FAST) | 140.00 | | |
| WG-DN-DSP-117-052606-JH-015 | L28821-2 | | 05/26/06:1655 | |
| WG | GELI | 108.00 | | |
| WG | H-3 | 108.00 | | |
| WG | SR-90 (FAST) | 140.00 | | |
| WG-DN-DSP-148-053006-JH-017 | L28821-3 | | 05/30/06:1350 | |
| WG | GELI | 108.00 | | |
| WG | H-3 | 108.00 | | |
| WG | SR-90 (FAST) | 140.00 | | |
| WG-DN-DSP-156-053006-JH-018 | L28821-4 | | 05/30/06:1550 | |
| WG | GELI | 108.00 | | |
| WG | H-3 | 108.00 | | |
| WG | SR-90 (FAST) | 140.00 | | |
| WG-DN-DSP-DN-118-052506-JL-0 | L28821-5 | | 05/25/06:1015 | |

| Client ID/ Station | Laboratory ID Analysis | Vol/Units Price | Start Collect Date/Time | End Collect Date/Time |
|---------------------------------------|---------------------------|--------------------|----------------------------|--------------------------|
| WG | GELI | 108.00 | | |
| WG | H-3 | 108.00 | | |
| WG | SR-90 (FAST) | 140.00 | | |
| WG-DN-DSP-DN-155-052506-JL-0 L28821-6 | | | 05/25/06:1500 | |
| WG | GELI | 108.00 | | |
| WG | H-3 | 108.00 | | |
| WG | SR-90 (FAST) | 140.00 | | |
| WG-DN-DSP-DN-122-052506-JL-0 L28821-7 | | | 05/25/06:1700 | |
| WG | GELI | 108.00 | | |
| WG | H-3 | 108.00 | | |
| WG | SR-90 (FAST) | 140.00 | | |
| WG-DN-DSP-DN-127-053006-JL-0 L28821-8 | | | 05/30/06:1055 | |
| WG | GELI | 108.00 | | |
| WG | H-3 | 108.00 | | |
| WG | SR-90 (FAST) | 140.00 | | |

End of document

Internal Chain of Custody

06/12/06 10:45

Teledyne Brown Engineering
Internal Chain of Custody*****
Sample # L28821-1 Containernum 1Prod Analyst
GELI EJ
H-3 EJ
SR-90 (FAST) LCB

| Relinquish Date | Relinquish By | Received By | Sample Custodian |
|------------------|---------------|-------------|------------------|
| 06/02/2006 00:00 | | 099999 | |
| 06/08/2006 13:48 | 099999 | 029709 | Susan Ogletree |
| 06/08/2006 13:52 | 029709 | 099999 | Sample Custodian |

Sample # L28821-1 Containernum 2Prod Analyst
GELI EJ
H-3 EJ
SR-90 (FAST) LCB

| Relinquish Date | Relinquish By | Received By | Sample Custodian |
|------------------|---------------|-------------|------------------|
| 06/02/2006 00:00 | | 099999 | |

Sample # L28821-2 Containernum 1Prod Analyst
GELI EJ
H-3 SO
SR-90 (FAST) LCB

| Relinquish Date | Relinquish By | Received By | Sample Custodian |
|------------------|---------------|-------------|------------------|
| 06/02/2006 00:00 | | 099999 | |
| 06/08/2006 13:48 | 099999 | 029709 | Susan Ogletree |
| 06/08/2006 13:52 | 029709 | 099999 | Sample Custodian |

Sample # L28821-2 Containernum 2Prod Analyst
GELI EJ
H-3 SO
SR-90 (FAST) LCB

| Relinquish Date | Relinquish By | Received By | Sample Custodian |
|------------------|---------------|-------------|------------------|
| 06/02/2006 00:00 | | 099999 | |

Sample # L28821-3 Containernum 1Prod Analyst
GELI EJ
H-3 SO
SR-90 (FAST) LCB

| Relinquish Date | Relinquish By | Received By | Sample Custodian |
|------------------|---------------|-------------|------------------|
| 06/02/2006 00:00 | | 099999 | |
| 06/08/2006 13:48 | 099999 | 029709 | Susan Ogletree |
| 06/08/2006 13:52 | 029709 | 099999 | Sample Custodian |

Sample # L28821-3 Containernum 2

Teledyne Brown Engineering
Internal Chain of Custody

| | |
|--------------|---------|
| Prod | Analyst |
| GELI | EJ |
| H-3 | SO |
| SR-90 (FAST) | LCB |

| | |
|--------------|---------|
| Prod | Analyst |
| GELI | EJ |
| H-3 | SO |
| SR-90 (FAST) | LCB |

| | |
|--------------|---------|
| Prod | Analyst |
| GELI | EJ |
| H-3 | SO |
| SR-90 (FAST) | LCB |

| | |
|--------------|---------|
| Prod | Analyst |
| GELI | EJ |
| H-3 | SO |
| SR-90 (FAST) | LCB |

| | |
|--------------|---------|
| Prod | Analyst |
| GELI | EJ |
| H-3 | SO |
| SR-90 (FAST) | LCB |

| | |
|------|---------|
| Prod | Analyst |
| GELI | EJ |

06/12/06 10:45

Teledyne Brown Engineering
Internal Chain of Custody*****
Sample # L28821-6 Containernum 1H-3 SO
SR-90 (FAST) LCB

| Relinquish Date | Relinquish By | | Received By | Sample Custodian |
|------------------|---------------|------------------|-------------|------------------|
| 06/02/2006 00:00 | | | 099999 | |
| 06/08/2006 13:48 | 099999 | Sample Custodian | 029709 | Susan Ogletree |
| 06/08/2006 13:52 | 029709 | Susan Ogletree | 099999 | Sample Custodian |

Sample # L28821-6 Containernum 2Prod Analyst
GELI EJ
H-3 SO
SR-90 (FAST) LCB

| Relinquish Date | Relinquish By | | Received By | Sample Custodian |
|------------------|---------------|--|-------------|------------------|
| 06/02/2006 00:00 | | | 099999 | |

Sample # L28821-7 Containernum 1Prod Analyst
GELI EJ
H-3 SO
SR-90 (FAST) LCB

| Relinquish Date | Relinquish By | | Received By | Sample Custodian |
|------------------|---------------|------------------|-------------|------------------|
| 06/02/2006 00:00 | | | 099999 | |
| 06/08/2006 13:48 | 099999 | Sample Custodian | 029709 | Susan Ogletree |
| 06/08/2006 13:52 | 029709 | Susan Ogletree | 099999 | Sample Custodian |

Sample # L28821-7 Containernum 2Prod Analyst
GELI EJ
H-3 SO
SR-90 (FAST) LCB

| Relinquish Date | Relinquish By | | Received By | Sample Custodian |
|------------------|---------------|--|-------------|------------------|
| 06/02/2006 00:00 | | | 099999 | |

Sample # L28821-8 Containernum 1Prod Analyst
GELI EJ
H-3 SO
SR-90 (FAST) LCB

| Relinquish Date | Relinquish By | | Received By | Sample Custodian |
|------------------|---------------|------------------|-------------|------------------|
| 06/02/2006 00:00 | | | 099999 | |
| 06/08/2006 13:48 | 099999 | Sample Custodian | 029709 | Susan Ogletree |
| 06/08/2006 13:52 | 029709 | Susan Ogletree | 099999 | Sample Custodian |

Sample # L28821-8 Containernum 2

Prod Analyst

06/12/06 10:45

Teledyne Brown Engineering
Internal Chain of Custody*****
Sample # L28821-8 Containernum 2

| | |
|--------------|-----|
| GELI | EJ |
| H-3 | SO |
| SR-90 (FAST) | LCB |

Relinquish Date Relinquish By
06/02/2006 00:00Received By
099999

Sample Custodian

06/12/06

Teledyne Brown Engineering
Internal Chain of Custody
Supplemental Sheet

L28821

| L28821-1 | | WG | WG-DN-DSP-121-052606-JH-014 | |
|---------------------|--------------|----|-----------------------------|-------------|
| <u>Process step</u> | <u>Prod</u> | | <u>Analyst</u> | <u>Date</u> |
| Login | | | PMARSHALL | 06/02/06 |
| Aliquot | GELI | | EJ | 06/06/06 |
| Aliquot | H-3 | | EJ | 06/07/06 |
| Aliquot | SR-90 (FAST) | | LCB | 06/09/06 |
| Count Room | GELI | | KPW | 06/08/06 |
| Count Room | H-3 | | KPW | 06/10/06 |
| Count Room | SR-90 (FAST) | | KOJ | 06/12/06 |

| L28821-2 | | WG | WG-DN-DSP-117-052606-JH-015 | |
|---------------------|--------------|----|-----------------------------|-------------|
| <u>Process step</u> | <u>Prod</u> | | <u>Analyst</u> | <u>Date</u> |
| Login | | | PMARSHALL | 06/02/06 |
| Aliquot | GELI | | EJ | 06/06/06 |
| Aliquot | H-3 | | SO | 06/07/06 |
| Aliquot | SR-90 (FAST) | | LCB | 06/09/06 |
| Count Room | GELI | | KPW | 06/08/06 |
| Count Room | H-3 | | KPW | 06/10/06 |
| Count Room | SR-90 (FAST) | | KOJ | 06/12/06 |

| L28821-3 | | WG | WG-DN-DSP-148-053006-JH-017 | |
|---------------------|--------------|----|-----------------------------|-------------|
| <u>Process step</u> | <u>Prod</u> | | <u>Analyst</u> | <u>Date</u> |
| Login | | | PMARSHALL | 06/02/06 |
| Aliquot | GELI | | EJ | 06/06/06 |
| Aliquot | H-3 | | SO | 06/07/06 |
| Aliquot | SR-90 (FAST) | | LCB | 06/09/06 |
| Count Room | GELI | | KPW | 06/08/06 |
| Count Room | H-3 | | KPW | 06/10/06 |
| Count Room | SR-90 (FAST) | | KOJ | 06/12/06 |

| L28821-4 | | WG | WG-DN-DSP-156-053006-JH-018 | |
|---------------------|--------------|----|-----------------------------|-------------|
| <u>Process step</u> | <u>Prod</u> | | <u>Analyst</u> | <u>Date</u> |
| Login | | | PMARSHALL | 06/02/06 |
| Aliquot | GELI | | EJ | 06/06/06 |
| Aliquot | H-3 | | SO | 06/07/06 |
| Aliquot | SR-90 (FAST) | | LCB | 06/09/06 |
| Count Room | GELI | | KPW | 06/08/06 |
| Count Room | H-3 | | KPW | 06/10/06 |
| Count Room | SR-90 (FAST) | | KOJ | 06/12/06 |

| L28821-5 | | WG | WG-DN-DSP-DN-118-052506-JL-057 | |
|---------------------|--------------|----|--------------------------------|-------------|
| <u>Process step</u> | <u>Prod</u> | | <u>Analyst</u> | <u>Date</u> |
| Login | | | PMARSHALL | 06/02/06 |
| Aliquot | GELI | | EJ | 06/06/06 |
| Aliquot | H-3 | | SO | 06/07/06 |
| Aliquot | SR-90 (FAST) | | LCB | 06/09/06 |
| Count Room | GELI | | KPW | 06/08/06 |

06/12/06

Teledyne Brown Engineering
Internal Chain of Custody
Supplemental Sheet

L28821

L28821-5 WG WG-DN-DSP-DN-118-052506-JL-057

| | | | |
|------------|--------------|-----|----------|
| Count Room | H-3 | KPW | 06/10/06 |
| Count Room | SR-90 (FAST) | KOJ | 06/12/06 |

L28821-6 WG WG-DN-DSP-DN-155-052506-JL-058

| <u>Process step</u> | <u>Prod</u> | <u>Analyst</u> | <u>Date</u> |
|---------------------|--------------|----------------|-------------|
| Login | | PMARSHALL | 06/02/06 |
| Aliquot | GELI | EJ | 06/06/06 |
| Aliquot | H-3 | SO | 06/07/06 |
| Aliquot | SR-90 (FAST) | LCB | 06/09/06 |
| Count Room | GELI | KPW | 06/08/06 |
| Count Room | H-3 | KPW | 06/10/06 |
| Count Room | SR-90 (FAST) | KOJ | 06/12/06 |

L28821-7 WG WG-DN-DSP-DN-122-052506-JL-059

| <u>Process step</u> | <u>Prod</u> | <u>Analyst</u> | <u>Date</u> |
|---------------------|--------------|----------------|-------------|
| Login | | PMARSHALL | 06/02/06 |
| Aliquot | GELI | EJ | 06/06/06 |
| Aliquot | H-3 | SO | 06/07/06 |
| Aliquot | SR-90 (FAST) | LCB | 06/09/06 |
| Count Room | GELI | KPW | 06/08/06 |
| Count Room | H-3 | KPW | 06/10/06 |
| Count Room | SR-90 (FAST) | KOJ | 06/12/06 |

L28821-8 WG WG-DN-DSP-DN-127-053006-JL-066

| <u>Process step</u> | <u>Prod</u> | <u>Analyst</u> | <u>Date</u> |
|---------------------|--------------|----------------|-------------|
| Login | | PMARSHALL | 06/02/06 |
| Aliquot | GELI | EJ | 06/06/06 |
| Aliquot | H-3 | SO | 06/07/06 |
| Aliquot | SR-90 (FAST) | LCB | 06/09/06 |
| Count Room | GELI | KPW | 06/08/06 |
| Count Room | H-3 | KPW | 06/10/06 |
| Count Room | SR-90 (FAST) | KOJ | 06/12/06 |

Analytical Results Summary

Report of Analysis

06/12/06 09:58

L28821

Conestoga-Rovers & Associates

EX001-3ESPDRS-06

Kathy Shaw



TELEDYNE
BROWN ENGINEERING, INC.
A Teledyne Technologies Company

Kathy Shaw

| Sample ID: WG-DN-DSP-121-052606-JH-014 | | | | | | Collect Start: 05/26/2006 15:20 | | | Matrix: Ground Water | | | (WG) | | |
|---|------|-----------------|---------------------|-----------------|-------|---------------------------------|----------------|---------------|----------------------|------------|------------|-------------|-------------|-----|
| Station: | | | | | | Collect Stop: | | | Volume: | | | | | |
| Description: | | | | | | Receive Date: 06/02/2006 | | | % Moisture: | | | | | |
| LIMS Number: L28821-1 | | | | | | | | | | | | | | |
| Radionuclide | SOP# | Activity Conc | Uncertainty 2 Sigma | MDC | Units | Run # | Aliquot Volume | Aliquot Units | Reference Date | Count Date | Count Time | Count Units | Flag Values | |
| H-3 | 2010 | 9.07E+01 | 1.03E+02 | 1.65E+02 | pCi/L | | 10 | ml | | 06/10/06 | 135 | M | U | |
| TOTAL SR | 2018 | 1.94E-01 | 4.27E-01 | 6.91E-01 | pCi/L | | 450 | ml | 05/26/06 15:20 | 06/12/06 | 400 | M | U | |
| MN-54 | 2007 | -3.26E-01 | 2.87E+00 | 4.70E+00 | pCi/L | | 3467.44 | ml | 05/26/06 15:20 | 06/08/06 | 22620 | Sec | U | No |
| CO-58 | 2007 | 1.08E+00 | 3.03E+00 | 5.09E+00 | pCi/L | | 3467.44 | ml | 05/26/06 15:20 | 06/08/06 | 22620 | Sec | U | No |
| FE-59 | 2007 | 3.92E+00 | 6.52E+00 | 1.12E+01 | pCi/L | | 3467.44 | ml | 05/26/06 15:20 | 06/08/06 | 22620 | Sec | U | No |
| CO-60 | 2007 | -1.34E+00 | 2.98E+00 | 4.68E+00 | pCi/L | | 3467.44 | ml | 05/26/06 15:20 | 06/08/06 | 22620 | Sec | U | No |
| ZN-65 | 2007 | 9.19E+00 | 6.29E+00 | 1.13E+01 | pCi/L | | 3467.44 | ml | 05/26/06 15:20 | 06/08/06 | 22620 | Sec | U | No |
| NB-95 | 2007 | -1.59E+00 | 3.10E+00 | 5.01E+00 | pCi/L | | 3467.44 | ml | 05/26/06 15:20 | 06/08/06 | 22620 | Sec | U | No |
| ZR-95 | 2007 | -3.35E+00 | 5.37E+00 | 8.62E+00 | pCi/L | | 3467.44 | ml | 05/26/06 15:20 | 06/08/06 | 22620 | Sec | U | No |
| CS-134 | 2007 | 6.95E+00 | 5.00E+00 | 5.19E+00 | pCi/L | | 3467.44 | ml | 05/26/06 15:20 | 06/08/06 | 22620 | Sec | U | No |
| CS-137 | 2007 | 1.61E+00 | 2.98E+00 | 4.98E+00 | pCi/L | | 3467.44 | ml | 05/26/06 15:20 | 06/08/06 | 22620 | Sec | U | No |
| BA-140 | 2007 | -1.93E+01 | 1.89E+01 | 2.97E+01 | pCi/L | | 3467.44 | ml | 05/26/06 15:20 | 06/08/06 | 22620 | Sec | U | No |
| LA-140 | 2007 | 4.05E+00 | 6.00E+00 | 1.04E+01 | pCi/L | | 3467.44 | ml | 05/26/06 15:20 | 06/08/06 | 22620 | Sec | U | No |
| TH-232 | 2007 | 1.69E+01 | 8.46E+00 | 1.62E+01 | pCi/L | | 3467.44 | ml | 05/26/06 15:20 | 06/08/06 | 22620 | Sec | + | Yes |

Flag Values

- U = Compound/Analyte not detected or less than 3 sigma
- +
- U* = Activity concentration exceeds MDC and 3 sigma; peak identified(gamma only)
- High = Compound/Analyte not detected. Peak not identified, but forced activity concentration exceeds MDC and 3 sigma
- Spec = Activity concentration exceeds customer reporting value
- L = MDC exceeds customer technical specification
- H = Low recovery
- H = High recovery

Bolded text indicates reportable value.

- No = Peak not identified in gamma spectrum
- Yes = Peak identified in gamma spectrum
- **** Results are reported on an as received basis unless otherwise noted

MDC - Minimum Detectable Concentration

Report of Analysis

06/12/06 09:58

L28821

Conestoga-Rovers & Associates

EX001-3ESPDRES-06



TELEDYNE
BROWN ENGINEERING, INC.
A Teledyne Technologies Company

Kathy Shaw

Sample ID: **WG-DN-DSP-117-052606-JH-015**

Collect Start: 05/26/2006 16:55

Matrix: Ground Water

(WG)

Station:

Collect Stop:

Volume:

Description:

Receive Date: 06/02/2006

% Moisture:

LIMS Number: L28821-2

| Radionuclide | SOP# | Activity Conc | Uncertainty 2 Sigma | MDC | Units | Run # | Aliquot Volume | Aliquot Units | Reference Date | Count Date | Count Time | Count Units | Flag Values |
|--------------|------|---------------|---------------------|-----------------|-------|-------|----------------|---------------|----------------|------------|------------|-------------|-------------|
| H-3 | 2010 | 6.81E+01 | 1.02E+02 | 1.65E+02 | pCi/L | | 10 | ml | | 06/10/06 | 135 | M | U |
| TOTAL SR | 2018 | 3.06E-01 | 4.57E-01 | 7.33E-01 | pCi/L | | 450 | ml | 05/26/06 16:55 | 06/12/06 | 400 | M | U |
| MN-54 | 2007 | -1.50E-01 | 1.98E+00 | 3.37E+00 | pCi/L | | 3477.39 | ml | 05/26/06 16:55 | 06/08/06 | 21813 | Sec | U |
| CO-58 | 2007 | -2.71E-01 | 2.28E+00 | 3.87E+00 | pCi/L | | 3477.39 | ml | 05/26/06 16:55 | 06/08/06 | 21813 | Sec | U |
| FE-59 | 2007 | 3.64E-01 | 4.27E+00 | 7.49E+00 | pCi/L | | 3477.39 | ml | 05/26/06 16:55 | 06/08/06 | 21813 | Sec | U |
| CO-60 | 2007 | -2.36E-01 | 2.05E+00 | 3.54E+00 | pCi/L | | 3477.39 | ml | 05/26/06 16:55 | 06/08/06 | 21813 | Sec | U |
| ZN-65 | 2007 | 3.95E+00 | 4.38E+00 | 7.97E+00 | pCi/L | | 3477.39 | ml | 05/26/06 16:55 | 06/08/06 | 21813 | Sec | U |
| NB-95 | 2007 | 3.49E-01 | 2.26E+00 | 3.90E+00 | pCi/L | | 3477.39 | ml | 05/26/06 16:55 | 06/08/06 | 21813 | Sec | U |
| ZR-95 | 2007 | -5.57E-01 | 4.14E+00 | 7.04E+00 | pCi/L | | 3477.39 | ml | 05/26/06 16:55 | 06/08/06 | 21813 | Sec | U |
| CS-134 | 2007 | 6.30E-01 | 2.49E+00 | 3.66E+00 | pCi/L | | 3477.39 | ml | 05/26/06 16:55 | 06/08/06 | 21813 | Sec | U |
| CS-137 | 2007 | 1.85E-01 | 2.15E+00 | 3.72E+00 | pCi/L | | 3477.39 | ml | 05/26/06 16:55 | 06/08/06 | 21813 | Sec | U |
| BA-140 | 2007 | 1.24E+01 | 1.50E+01 | 2.61E+01 | pCi/L | | 3477.39 | ml | 05/26/06 16:55 | 06/08/06 | 21813 | Sec | U |
| LA-140 | 2007 | 1.20E+00 | 4.46E+00 | 8.03E+00 | pCi/L | | 3477.39 | ml | 05/26/06 16:55 | 06/08/06 | 21813 | Sec | U |

Flag Values

- U = Compound/Analyte not detected or less than 3 sigma
- +
- + = Activity concentration exceeds MDC and 3 sigma; peak identified(gamma only)
- U* = Compound/Analyte not detected. Peak not identified, but forced activity concentration exceeds MDC and 3 sigma
- High = Activity concentration exceeds customer reporting value
- Spec = MDC exceeds customer technical specification
- L = Low recovery
- H = High recovery

Bolded text indicates reportable value.

No = Peak not identified in gamma spectrum
 Yes = Peak identified in gamma spectrum
 **** Results are reported on an as received basis unless otherwise noted

MDC - Minimum Detectable Concentration

Report of Analysis

06/12/06 09:58

L28821

Conestoga-Rovers & Associates

EX001-3ESPDRES-06



TELEDYNE
BROWN ENGINEERING, INC.
A Teledyne Technologies Company

Kathy Shaw

| | | |
|---|---------------------------------|---------------------------|
| Sample ID: WG-DN-DSP-148-053006-JH-017 | Collect Start: 05/30/2006 13:50 | Matrix: Ground Water (WG) |
| Station: | Collect Stop: | Volume: |
| Description: | Receive Date: 06/02/2006 | % Moisture: |
| LIMS Number: L28821-3 | | |

| Radionuclide | SOP# | Activity Conc | Uncertainty 2 Sigma | MDC | Units | Run # | Aliquot Volume | Aliquot Units | Reference Date | Count Date | Count Time | Count Units | Flag Values |
|--------------|------|-----------------|---------------------|-----------------|-------|-------|----------------|---------------|----------------|------------|------------|-------------|-------------|
| H-3 | 2010 | 3.56E+02 | 1.11E+02 | 1.64E+02 | pCi/L | | 10 | ml | | 06/10/06 | 135 | M | + |
| TOTAL SR | 2018 | 6.47E-01 | 4.41E-01 | 6.84E-01 | pCi/L | | 450 | ml | 05/30/06 13:50 | 06/12/06 | 400 | M | U |
| MN-54 | 2007 | 3.30E-01 | 3.05E+00 | 5.07E+00 | pCi/L | | 3524.81 | ml | 05/30/06 13:50 | 06/08/06 | 8726 | Sec | U No |
| CO-58 | 2007 | -1.97E+00 | 3.17E+00 | 5.01E+00 | pCi/L | | 3524.81 | ml | 05/30/06 13:50 | 06/08/06 | 8726 | Sec | U No |
| FE-59 | 2007 | 4.14E+00 | 6.21E+00 | 1.09E+01 | pCi/L | | 3524.81 | ml | 05/30/06 13:50 | 06/08/06 | 8726 | Sec | U No |
| CO-60 | 2007 | -3.31E+00 | 3.03E+00 | 4.32E+00 | pCi/L | | 3524.81 | ml | 05/30/06 13:50 | 06/08/06 | 8726 | Sec | U No |
| ZN-65 | 2007 | 3.56E+00 | 6.49E+00 | 1.12E+01 | pCi/L | | 3524.81 | ml | 05/30/06 13:50 | 06/08/06 | 8726 | Sec | U No |
| NB-95 | 2007 | 2.84E+00 | 3.27E+00 | 5.75E+00 | pCi/L | | 3524.81 | ml | 05/30/06 13:50 | 06/08/06 | 8726 | Sec | U No |
| ZR-95 | 2007 | -1.31E+00 | 5.81E+00 | 9.28E+00 | pCi/L | | 3524.81 | ml | 05/30/06 13:50 | 06/08/06 | 8726 | Sec | U* No |
| CS-134 | 2007 | 1.23E+01 | 5.49E+00 | 6.10E+00 | pCi/L | | 3524.81 | ml | 05/30/06 13:50 | 06/08/06 | 8726 | Sec | U No |
| CS-137 | 2007 | -1.35E+00 | 3.35E+00 | 5.33E+00 | pCi/L | | 3524.81 | ml | 05/30/06 13:50 | 06/08/06 | 8726 | Sec | U No |
| BA-140 | 2007 | -4.79E+00 | 1.60E+01 | 2.60E+01 | pCi/L | | 3524.81 | ml | 05/30/06 13:50 | 06/08/06 | 8726 | Sec | U No |
| LA-140 | 2007 | -1.25E+00 | 5.53E+00 | 8.85E+00 | pCi/L | | 3524.81 | ml | 05/30/06 13:50 | 06/08/06 | 8726 | Sec | U No |

Flag Values

- U = Compound/Analyte not detected or less than 3 sigma
- + = Activity concentration exceeds MDC and 3 sigma; peak identified(gamma only)
- U* = Compound/Analyte not detected. Peak not identified, but forced activity concentration exceeds MDC and 3 sigma
- High = Activity concentration exceeds customer reporting value
- Spec = MDC exceeds customer technical specification
- L = Low recovery
- H = High recovery

Bolded text indicates reportable value.

- No = Peak not identified in gamma spectrum
- Yes = Peak identified in gamma spectrum
- **** Results are reported on an as received basis unless otherwise noted

MDC - Minimum Detectable Concentration

Report of Analysis

06/12/06 09:58

L28821

Conestoga-Rovers & Associates

EX001-3ESPDRES-06



TELEDYNE
BROWN ENGINEERING, INC.
A Teledyne Technologies Company

Kathy Shaw

Sample ID: **WG-DN-DSP-156-053006-JH-018**

Station:

Description:

LIMS Number: L28821-4

Collect Start: 05/30/2006 15:50

Collect Stop:

Receive Date: 06/02/2006

Matrix: Ground Water

(WG)

Volume:

% Moisture:

| Radionuclide | SOP# | Activity Conc | Uncertainty 2 Sigma | MDC | Units | Run # | Aliquot Volume | Aliquot Units | Reference Date | Count Date | Count Time | Count Units | Flag Values |
|--------------|------|-----------------|---------------------|-----------------|-------|-------|----------------|---------------|----------------|------------|------------|-------------|-------------|
| H-3 | 2010 | 1.77E+02 | 1.07E+02 | 1.67E+02 | pCi/L | | 10 | ml | | 06/10/06 | 135 | M | + |
| TOTAL SR | 2018 | 8.33E-01 | 7.07E-01 | 1.11E+00 | pCi/L | | 450 | ml | 05/30/06 15:50 | 06/12/06 | 400 | M | U |
| MN-54 | 2007 | 1.91E+00 | 3.02E+00 | 5.17E+00 | pCi/L | | 3522.43 | ml | 05/30/06 15:50 | 06/08/06 | 11278 | Sec | U |
| CO-58 | 2007 | -1.15E+00 | 3.13E+00 | 4.96E+00 | pCi/L | | 3522.43 | ml | 05/30/06 15:50 | 06/08/06 | 11278 | Sec | U |
| FE-59 | 2007 | 4.45E+00 | 6.50E+00 | 1.13E+01 | pCi/L | | 3522.43 | ml | 05/30/06 15:50 | 06/08/06 | 11278 | Sec | U |
| CO-60 | 2007 | -4.10E-01 | 3.58E+00 | 5.77E+00 | pCi/L | | 3522.43 | ml | 05/30/06 15:50 | 06/08/06 | 11278 | Sec | U |
| ZN-65 | 2007 | 5.50E+00 | 6.64E+00 | 1.16E+01 | pCi/L | | 3522.43 | ml | 05/30/06 15:50 | 06/08/06 | 11278 | Sec | U |
| NB-95 | 2007 | 1.07E+00 | 3.19E+00 | 5.36E+00 | pCi/L | | 3522.43 | ml | 05/30/06 15:50 | 06/08/06 | 11278 | Sec | U |
| ZR-95 | 2007 | -5.00E+00 | 5.57E+00 | 8.52E+00 | pCi/L | | 3522.43 | ml | 05/30/06 15:50 | 06/08/06 | 11278 | Sec | U |
| CS-134 | 2007 | 6.21E+00 | 4.73E+00 | 5.59E+00 | pCi/L | | 3522.43 | ml | 05/30/06 15:50 | 06/08/06 | 11278 | Sec | U |
| CS-137 | 2007 | 7.71E-01 | 3.19E+00 | 5.38E+00 | pCi/L | | 3522.43 | ml | 05/30/06 15:50 | 06/08/06 | 11278 | Sec | U |
| BA-140 | 2007 | -2.35E+00 | 1.63E+01 | 2.64E+01 | pCi/L | | 3522.43 | ml | 05/30/06 15:50 | 06/08/06 | 11278 | Sec | U |
| LA-140 | 2007 | 4.22E+00 | 5.11E+00 | 9.26E+00 | pCi/L | | 3522.43 | ml | 05/30/06 15:50 | 06/08/06 | 11278 | Sec | U |
| RA-226 | 2007 | 1.21E+02 | 6.84E+01 | 1.13E+02 | pCi/L | | 3522.43 | ml | 05/30/06 15:50 | 06/08/06 | 11278 | Sec | + |

Flag Values

- U = Compound/Analyte not detected or less than 3 sigma
- +
- U* = Activity concentration exceeds MDC and 3 sigma; peak identified(gamma only)
- High = Compound/Analyte not detected. Peak not identified, but forced activity concentration exceeds MDC and 3 sigma
- Spec = Activity concentration exceeds customer reporting value
- L = MDC exceeds customer technical specification
- H = Low recovery
- H = High recovery

Bolded text indicates reportable value.

No = Peak not identified in gamma spectrum

Yes = Peak identified in gamma spectrum

**** Results are reported on an as received basis unless otherwise noted

MDC - Minimum Detectable Concentration

Report of Analysis

06/12/06 09:58

L28821

Conestoga-Rovers & Associates

EX001-3ESPDRES-06

Kathy Shaw



TELEDYNE
BROWN ENGINEERING, INC.
A Teledyne Technologies Company

Kathy Shaw

| Sample ID: WG-DN-DSP-DN-118-052506-JL-057 | | | | | | Collect Start: 05/25/2006 10:15 | | | | Matrix: Ground Water | | | | (WG) | | |
|--|------|---------------|---------------------|----------|-------|---------------------------------|----------------|---------------|----------------|----------------------|------------|-------------|-------------|------|----|--|
| Station: | | | | | | Collect Stop: | | | | Volume: | | | | | | |
| Description: | | | | | | Receive Date: 06/02/2006 | | | | % Moisture: | | | | | | |
| LIMS Number: L28821-5 | | | | | | | | | | | | | | | | |
| Radionuclide | SOP# | Activity Conc | Uncertainty 2 Sigma | MDC | Units | Run # | Aliquot Volume | Aliquot Units | Reference Date | Count Date | Count Time | Count Units | Flag Values | | | |
| H-3 | 2010 | 7.79E+01 | 1.03E+02 | 1.66E+02 | pCi/L | | 10 | ml | | 06/10/06 | 135 | M | U | | | |
| TOTAL SR | 2018 | 9.54E-01 | 6.85E-01 | 1.06E+00 | pCi/L | | 450 | ml | 05/25/06 10:15 | 06/12/06 | 400 | M | U | | | |
| MN-54 | 2007 | -2.52E-01 | 2.57E+00 | 4.23E+00 | pCi/L | | 3633.1 | ml | 05/25/06 10:15 | 06/08/06 | 11005 | Sec | U | | No | |
| CO-58 | 2007 | 1.54E-01 | 2.80E+00 | 4.65E+00 | pCi/L | | 3633.1 | ml | 05/25/06 10:15 | 06/08/06 | 11005 | Sec | U | | No | |
| FE-59 | 2007 | 4.73E+00 | 6.01E+00 | 1.05E+01 | pCi/L | | 3633.1 | ml | 05/25/06 10:15 | 06/08/06 | 11005 | Sec | U | | No | |
| CO-60 | 2007 | 1.09E+00 | 2.86E+00 | 4.82E+00 | pCi/L | | 3633.1 | ml | 05/25/06 10:15 | 06/08/06 | 11005 | Sec | U | | No | |
| ZN-65 | 2007 | 6.32E+00 | 5.78E+00 | 1.03E+01 | pCi/L | | 3633.1 | ml | 05/25/06 10:15 | 06/08/06 | 11005 | Sec | U | | No | |
| NB-95 | 2007 | -6.23E-01 | 2.69E+00 | 4.40E+00 | pCi/L | | 3633.1 | ml | 05/25/06 10:15 | 06/08/06 | 11005 | Sec | U | | No | |
| ZR-95 | 2007 | 1.02E-01 | 5.03E+00 | 8.17E+00 | pCi/L | | 3633.1 | ml | 05/25/06 10:15 | 06/08/06 | 11005 | Sec | U* | | No | |
| CS-134 | 2007 | 9.47E+00 | 4.73E+00 | 4.93E+00 | pCi/L | | 3633.1 | ml | 05/25/06 10:15 | 06/08/06 | 11005 | Sec | U | | No | |
| CS-137 | 2007 | 5.84E-01 | 2.88E+00 | 4.78E+00 | pCi/L | | 3633.1 | ml | 05/25/06 10:15 | 06/08/06 | 11005 | Sec | U | | No | |
| BA-140 | 2007 | -2.20E+01 | 1.85E+01 | 2.86E+01 | pCi/L | | 3633.1 | ml | 05/25/06 10:15 | 06/08/06 | 11005 | Sec | U | | No | |
| LA-140 | 2007 | 1.98E+00 | 6.65E+00 | 1.12E+01 | pCi/L | | 3633.1 | ml | 05/25/06 10:15 | 06/08/06 | 11005 | Sec | U | | No | |

Flag Values

- U = Compound/Analyte not detected or less than 3 sigma
- + = Activity concentration exceeds MDC and 3 sigma; peak identified(gamma only)
- U* = Compound/Analyte not detected. Peak not identified, but forced activity concentration exceeds MDC and 3 sigma
- High = Activity concentration exceeds customer reporting value
- Spec = MDC exceeds customer technical specification
- L = Low recovery
- H = High recovery

Bolded text indicates reportable value.

- No = Peak not identified in gamma spectrum
- Yes = Peak identified in gamma spectrum
- **** Results are reported on an as received basis unless otherwise noted

MDC - Minimum Detectable Concentration

Report of Analysis

06/12/06 09:58

L28821

Conestoga-Rovers & Associates

EX001-3ESPDRES-06



TELEDYNE
BROWN ENGINEERING, INC.
A Teledyne Technologies Company

Kathy Shaw

Sample ID: **WG-DN-DSP-DN-155-052506-JL-058**

Station:

Description:

LIMS Number: L28821-6

Collect Start: 05/25/2006 15:00

Collect Stop:

Receive Date: 06/02/2006

Matrix: Ground Water

(WG)

Volume:

% Moisture:

| Radionuclide | SOP# | Activity Conc | Uncertainty 2 Sigma | MDC | Units | Run # | Aliquot Volume | Aliquot Units | Reference Date | Count Date | Count Time | Count Units | Flag Values |
|--------------|------|-----------------|---------------------|-----------------|-------|-------|----------------|---------------|----------------|------------|------------|-------------|-------------|
| H-3 | 2010 | 1.47E+02 | 1.06E+02 | 1.67E+02 | pCi/L | | 10 | ml | | 06/10/06 | 135 | M | U |
| TOTAL SR | 2018 | 6.67E-01 | 4.30E-01 | 6.63E-01 | pCi/L | | 450 | ml | 05/25/06 15:00 | 06/12/06 | 400 | M | + |
| MN-54 | 2007 | 2.15E-01 | 3.21E+00 | 5.32E+00 | pCi/L | | 3631.16 | ml | 05/25/06 15:00 | 06/08/06 | 12642 | Sec | U |
| CO-58 | 2007 | -3.75E+00 | 3.50E+00 | 5.34E+00 | pCi/L | | 3631.16 | ml | 05/25/06 15:00 | 06/08/06 | 12642 | Sec | U |
| FE-59 | 2007 | 7.96E+00 | 7.23E+00 | 1.30E+01 | pCi/L | | 3631.16 | ml | 05/25/06 15:00 | 06/08/06 | 12642 | Sec | U |
| CO-60 | 2007 | -1.02E+00 | 3.10E+00 | 4.91E+00 | pCi/L | | 3631.16 | ml | 05/25/06 15:00 | 06/08/06 | 12642 | Sec | U |
| ZN-65 | 2007 | 8.49E+00 | 7.95E+00 | 1.25E+01 | pCi/L | | 3631.16 | ml | 05/25/06 15:00 | 06/08/06 | 12642 | Sec | U |
| NB-95 | 2007 | 4.34E+00 | 3.61E+00 | 6.42E+00 | pCi/L | | 3631.16 | ml | 05/25/06 15:00 | 06/08/06 | 12642 | Sec | U |
| ZR-95 | 2007 | -4.21E+00 | 6.18E+00 | 9.78E+00 | pCi/L | | 3631.16 | ml | 05/25/06 15:00 | 06/08/06 | 12642 | Sec | U |
| CS-134 | 2007 | 5.10E+00 | 5.02E+00 | 5.53E+00 | pCi/L | | 3631.16 | ml | 05/25/06 15:00 | 06/08/06 | 12642 | Sec | U |
| CS-137 | 2007 | 3.80E+00 | 3.19E+00 | 5.61E+00 | pCi/L | | 3631.16 | ml | 05/25/06 15:00 | 06/08/06 | 12642 | Sec | U |
| BA-140 | 2007 | -1.74E+01 | 2.35E+01 | 3.71E+01 | pCi/L | | 3631.16 | ml | 05/25/06 15:00 | 06/08/06 | 12642 | Sec | U |
| LA-140 | 2007 | 7.10E+00 | 7.79E+00 | 1.40E+01 | pCi/L | | 3631.16 | ml | 05/25/06 15:00 | 06/08/06 | 12642 | Sec | U |

Flag Values

- U = Compound/Analyte not detected or less than 3 sigma
- +
- U* = Activity concentration exceeds MDC and 3 sigma; peak identified(gamma only)
- High = Compound/Analyte not detected. Peak not identified, but forced activity concentration exceeds MDC and 3 sigma
- Spec = Activity concentration exceeds customer reporting value
- L = MDC exceeds customer technical specification
- L = Low recovery
- H = High recovery

Bolded text indicates reportable value.

No = Peak not identified in gamma spectrum
Yes = Peak identified in gamma spectrum
**** Results are reported on an as received basis unless otherwise noted

MDC - Minimum Detectable Concentration

Report of Analysis

06/12/06 09:58

L28821

Conestoga-Rovers & Associates

EX001-3ESPDRES-06



TELEDYNE
BROWN ENGINEERING, INC.
A Teledyne Technologies Company

Kathy Shaw

Sample ID: **WG-DN-DSP-DN-122-052506-JL-059**

Station:

Description:

LIMS Number: L28821-7

Collect Start: 05/25/2006 17:00

Collect Stop:

Receive Date: 06/02/2006

Matrix: Ground Water

(WG)

Volume:

% Moisture:

| Radionuclide | SOP# | Activity Conc | Uncertainty 2 Sigma | MDC | Units | Run # | Aliquot Volume | Aliquot Units | Reference Date | Count Date | Count Time | Count Units | Flag Values | | | |
|--------------|------|-----------------|---------------------|-----------------|-------|-------|----------------|---------------|----------------|------------|------------|-------------|-------------|--|----|--|
| H-3 | 2010 | 1.44E+03 | 1.39E+02 | 1.63E+02 | pCi/L | | 10 | ml | | 06/10/06 | 135 | M | + | | | |
| TOTAL SR | 2018 | 2.80E-01 | 4.74E-01 | 7.62E-01 | pCi/L | | 450 | ml | 05/25/06 17:00 | 06/12/06 | 400 | M | U | | | |
| MN-54 | 2007 | 3.12E+00 | 2.97E+00 | 5.24E+00 | pCi/L | | 3633.3 | ml | 05/25/06 17:00 | 06/08/06 | 12362 | Sec | U | | No | |
| CO-58 | 2007 | -9.99E-01 | 3.39E+00 | 5.44E+00 | pCi/L | | 3633.3 | ml | 05/25/06 17:00 | 06/08/06 | 12362 | Sec | U | | No | |
| FE-59 | 2007 | -9.01E+00 | 7.02E+00 | 1.03E+01 | pCi/L | | 3633.3 | ml | 05/25/06 17:00 | 06/08/06 | 12362 | Sec | U | | No | |
| CO-60 | 2007 | 1.19E+00 | 3.39E+00 | 5.24E+00 | pCi/L | | 3633.3 | ml | 05/25/06 17:00 | 06/08/06 | 12362 | Sec | U | | No | |
| ZN-65 | 2007 | 4.75E+00 | 7.32E+00 | 1.27E+01 | pCi/L | | 3633.3 | ml | 05/25/06 17:00 | 06/08/06 | 12362 | Sec | U | | No | |
| NB-95 | 2007 | -1.84E+00 | 3.55E+00 | 5.62E+00 | pCi/L | | 3633.3 | ml | 05/25/06 17:00 | 06/08/06 | 12362 | Sec | U | | No | |
| ZR-95 | 2007 | -2.15E+00 | 6.09E+00 | 9.76E+00 | pCi/L | | 3633.3 | ml | 05/25/06 17:00 | 06/08/06 | 12362 | Sec | U | | No | |
| CS-134 | 2007 | -2.15E-01 | 4.43E+00 | 6.19E+00 | pCi/L | | 3633.3 | ml | 05/25/06 17:00 | 06/08/06 | 12362 | Sec | U | | No | |
| CS-137 | 2007 | -1.59E+00 | 3.34E+00 | 5.36E+00 | pCi/L | | 3633.3 | ml | 05/25/06 17:00 | 06/08/06 | 12362 | Sec | U | | No | |
| BA-140 | 2007 | 3.85E+00 | 2.18E+01 | 3.58E+01 | pCi/L | | 3633.3 | ml | 05/25/06 17:00 | 06/08/06 | 12362 | Sec | U | | No | |
| LA-140 | 2007 | -3.40E+00 | 7.23E+00 | 1.14E+01 | pCi/L | | 3633.3 | ml | 05/25/06 17:00 | 06/08/06 | 12362 | Sec | U | | No | |

Flag Values

- U = Compound/Analyte not detected or less than 3 sigma
- +
- = Activity concentration exceeds MDC and 3 sigma; peak identified(gamma only)
- U* = Compound/Analyte not detected. Peak not identified, but forced activity concentration exceeds MDC and 3 sigma
- High = Activity concentration exceeds customer reporting value
- Spec = MDC exceeds customer technical specification
- L = Low recovery
- H = High recovery

Bolded text indicates reportable value.

No = Peak not identified in gamma spectrum
 Yes = Peak identified in gamma spectrum
 **** Results are reported on an as received basis unless otherwise noted

MDC - Minimum Detectable Concentration

Report of Analysis

06/12/06 09:58

L28821

Conestoga-Rovers & Associates

EX001-3ESPDRES-06

Kathy Shaw

Sample ID: **WG-DN-DSP-DN-127-053006-JL-066**

Station:

Description:

LIMS Number: L28821-8

Collect Start: 05/30/2006 10:55

Collect Stop:

Receive Date: 06/02/2006

Matrix: Ground Water

(WG)

Volume:

% Moisture:

| Radionuclide | SOP# | Activity Conc | Uncertainty 2 Sigma | MDC | Units | Run # | Aliquot Volume | Aliquot Units | Reference Date | Count Date | Count Time | Count Units | Flag Values | | |
|--------------|------|---------------|---------------------|-----------------|-------|-------|----------------|---------------|----------------|------------|------------|-------------|-------------|--|----|
| H-3 | 2010 | 8.53E+01 | 1.02E+02 | 1.63E+02 | pCi/L | | 10 | ml | | 06/10/06 | 135 | M | U | | |
| TOTAL SR | 2018 | 4.18E-01 | 5.39E-01 | 8.63E-01 | pCi/L | | 450 | ml | 05/30/06 10:55 | 06/12/06 | 400 | M | U | | |
| MN-54 | 2007 | -1.87E-01 | 1.88E+00 | 3.12E+00 | pCi/L | | 2849.81 | ml | 05/30/06 10:55 | 06/08/06 | 48036 | Sec | U | | No |
| CO-58 | 2007 | -2.79E+00 | 2.00E+00 | 3.12E+00 | pCi/L | | 2849.81 | ml | 05/30/06 10:55 | 06/08/06 | 48036 | Sec | U | | No |
| FE-59 | 2007 | 4.23E+00 | 4.12E+00 | 7.07E+00 | pCi/L | | 2849.81 | ml | 05/30/06 10:55 | 06/08/06 | 48036 | Sec | U | | No |
| CO-60 | 2007 | -2.41E-01 | 1.93E+00 | 3.14E+00 | pCi/L | | 2849.81 | ml | 05/30/06 10:55 | 06/08/06 | 48036 | Sec | U | | No |
| ZN-65 | 2007 | 4.88E+00 | 4.96E+00 | 7.24E+00 | pCi/L | | 2849.81 | ml | 05/30/06 10:55 | 06/08/06 | 48036 | Sec | U | | No |
| NB-95 | 2007 | -1.86E-02 | 2.04E+00 | 3.34E+00 | pCi/L | | 2849.81 | ml | 05/30/06 10:55 | 06/08/06 | 48036 | Sec | U | | No |
| ZR-95 | 2007 | -8.57E-01 | 3.72E+00 | 6.05E+00 | pCi/L | | 2849.81 | ml | 05/30/06 10:55 | 06/08/06 | 48036 | Sec | U | | No |
| CS-134 | 2007 | 3.81E+00 | 4.08E+00 | 3.58E+00 | pCi/L | | 2849.81 | ml | 05/30/06 10:55 | 06/08/06 | 48036 | Sec | U | | No |
| CS-137 | 2007 | 1.97E+00 | 2.33E+00 | 3.51E+00 | pCi/L | | 2849.81 | ml | 05/30/06 10:55 | 06/08/06 | 48036 | Sec | U | | No |
| BA-140 | 2007 | -4.31E-01 | 1.09E+01 | 1.77E+01 | pCi/L | | 2849.81 | ml | 05/30/06 10:55 | 06/08/06 | 48036 | Sec | U | | No |
| LA-140 | 2007 | 2.90E+00 | 3.47E+00 | 5.90E+00 | pCi/L | | 2849.81 | ml | 05/30/06 10:55 | 06/08/06 | 48036 | Sec | U | | No |

Flag Values

- U = Compound/Analyte not detected or less than 3 sigma
- + = Activity concentration exceeds MDC and 3 sigma; peak identified(gamma only)
- U* = Compound/Analyte not detected. Peak not identified, but forced activity concentration exceeds MDC and 3 sigma
- High = Activity concentration exceeds customer reporting value
- Spec = MDC exceeds customer technical specification
- L = Low recovery
- H = High recovery

Bolded text indicates reportable value.

- No = Peak not identified in gamma spectrum
- Yes = Peak identified in gamma spectrum
- **** Results are reported on an as received basis unless otherwise noted

MDC - Minimum Detectable Concentration

QC Results Summary

QC Summary Report

for L28821

6/12/2006

10:01:43AM



H-3

Method Blank Summary

| <u>TBE Sample ID</u> | <u>Radionuclide</u> | <u>Matrix</u> | <u>Count Date/Time</u> | <u>Blank Result</u> | <u>Units</u> | <u>Qualifier</u> | <u>P/F</u> |
|----------------------|---------------------|---------------|------------------------|---------------------|--------------|------------------|------------|
| WG4106-1 | H-3 | WO | 06/10/2006 3:12 | < 1.680E+00 | pCi/Total | U | P |

LCS Sample Summary

| <u>TBE Sample ID</u> | <u>Radionuclide</u> | <u>Matrix</u> | <u>Count Date/Time</u> | <u>Spike Value</u> | <u>LCS Result</u> | <u>Units</u> | <u>Spike Recovery</u> | <u>Range</u> | <u>Qualifier</u> | <u>P/F</u> |
|----------------------|---------------------|---------------|------------------------|--------------------|-------------------|--------------|-----------------------|--------------|------------------|------------|
| WG4106-2 | H-3 | WO | 06/10/2006 4:15 | 5.05E+002 | 4.990E+02 | pCi/Total | 98.9 | 70-130 | + | P |

Spike ID: 3H-041706-1

Spike conc: 5.05E+002

Spike Vol: 1.00E+000

Duplicate Summary

| <u>TBE Sample ID</u> | <u>Radionuclide</u> | <u>Matrix</u> | <u>Count Date/Time</u> | <u>Original Result</u> | <u>DUP Result</u> | <u>Units</u> | <u>RPD</u> | <u>Range</u> | <u>Qualifier</u> | <u>P/F</u> |
|-----------------------|---------------------|---------------|------------------------|------------------------|-------------------|--------------|------------|--------------|------------------|------------|
| WG4106-3 L28801-11 | H-3 | WG | 06/10/2006 4:34 | < 1.700E+02 | < 1.710E+02 | pCi/L | | <30 | ** | NE |

+ Positive Result
 U Compound/analyte was analyzed, peak not identified and/or not detected above MDC
 * < 5 times the MDC are not evaluated
 ** Nuclide not detected
 *** Spiking level < 5 times activity
 P Pass
 F Fail
 NE Not evaluated

QC Summary Report

for L28821

6/12/2006

10:01:43AM



L28821

H-3

Associated Samples for

WG4106

SAMPLENUM

CLIENTID

L28821-1
L28821-2
L28821-3
L28821-4
L28821-5
L28821-6
L28821-7
L28821-8

WG-DN-DSP-121-052606-JH-014
WG-DN-DSP-117-052606-JH-015
WG-DN-DSP-148-053006-JH-017
WG-DN-DSP-156-053006-JH-018
WG-DN-DSP-DN-118-052506-JL-057
WG-DN-DSP-DN-155-052506-JL-058
WG-DN-DSP-DN-122-052506-JL-059
WG-DN-DSP-DN-127-053006-JL-066

+ Positive Result
U Compound/analyte was analyzed, peak not identified and/or not detected above MDC
* < 5 times the MDC are not evaluated
** Nuclide not detected
*** Spiking level < 5 times activity
P Pass
F Fail
NE Not evaluated

Page: 2

L2882130 OF 82

QC Summary Report

for L28821

6/12/2006

10:01:43AM



TOTAL SR

Method Blank Summary

| <u>TBE Sample ID</u> | <u>Radionuclide</u> | <u>Matrix</u> | <u>Count Date/Time</u> | <u>Blank Result</u> | <u>Units</u> | <u>Qualifier</u> | <u>P/F</u> |
|----------------------|---------------------|---------------|------------------------|---------------------|--------------|------------------|------------|
| WG4133-1 | TOTAL SR | WO | 06/12/2006 8:10 | < 4.830E-01 | pCi/Total | U | P |

LCS Sample Summary

| <u>TBE Sample ID</u> | <u>Radionuclide</u> | <u>Matrix</u> | <u>Count Date/Time</u> | <u>Spike Value</u> | <u>LCS Result</u> | <u>Units</u> | <u>Spike Recovery</u> | <u>Range</u> | <u>Qualifier</u> | <u>P/F</u> |
|----------------------|---------------------|---------------|------------------------|--------------------|-------------------|--------------|-----------------------|--------------|------------------|------------|
| WG4133-2 | TOTAL SR | WO | 06/11/2006 23:28 | 5.84E+001 | 6.620E+01 | pCi/Total | 113.4 | 70-130 | + | P |

Spike ID: 90SR-011905

Spike conc: 2.34E+002

Spike Vol: 2.50E-001

Duplicate Summary

| <u>TBE Sample ID</u> | <u>Radionuclide</u> | <u>Matrix</u> | <u>Count Date/Time</u> | <u>Original Result</u> | <u>DUP Result</u> | <u>Units</u> | <u>RPD</u> | <u>Range</u> | <u>Qualifier</u> | <u>P/F</u> |
|----------------------|---------------------|---------------|------------------------|------------------------|-------------------|--------------|------------|--------------|------------------|------------|
| WG4133-4 L28821-1 | TOTAL SR | WG | 06/12/2006 8:10 | < 6.910E-01 | 1.110E+00 | pCi/L | | <30 | * | NE |

+ Positive Result
 U Compound/analyte was analyzed, peak not identified and/or not detected above MDC
 * < 5 times the MDC are not evaluated
 ** Nuclide not detected
 *** Spiking level < 5 times activity
 P Pass
 F Fail
 NE Not evaluated

QC Summary Report

for L28821

6/12/2006

10:01:43AM



L28821 SR-90 (FAST)

Associated Samples for

WG4133

SAMPLENUM

CLIENTID

| | |
|----------|--------------------------------|
| L28821-1 | WG-DN-DSP-121-052606-JH-014 |
| L28821-2 | WG-DN-DSP-117-052606-JH-015 |
| L28821-3 | WG-DN-DSP-148-053006-JH-017 |
| L28821-4 | WG-DN-DSP-156-053006-JH-018 |
| L28821-5 | WG-DN-DSP-DN-118-052506-JL-057 |
| L28821-6 | WG-DN-DSP-DN-155-052506-JL-058 |
| L28821-7 | WG-DN-DSP-DN-122-052506-JL-059 |
| L28821-8 | WG-DN-DSP-DN-127-053006-JL-066 |

| | |
|-----|--|
| + | Positive Result |
| U | Compound/analyte was analyzed, peak not identified and/or not detected above MDC |
| * | < 5 times the MDC are not evaluated |
| ** | Nuclide not detected |
| *** | Spiking level < 5 times activity |
| P | Pass |
| F | Fail |
| NE | Not evaluated |

Page: 4

L2882132 OF 82

Raw Data

Raw Data Sheet (rawdata)
Jun 12 2006, 10:12 am

Page: 1

Work Order: L28821

Customer: Exelon

Nuclide: H-3

Project : EX001-3ESPDRES-06

| Sample ID | Run | Analysis | Reference | Volume/ Aliquot | Scavenge Date/time | Milking Date/time | Mount Weight | Recovery | Count Date/time | Counter ID | Total counts | Sample dt (min) | Bkg counts | Bkg dt (min) | Eff. | Decay & Ingrowth Factor | Analyst |
|------------------------|-----|-----------------|-----------|--------------------|-----------------------|----------------------|-----------------|----------|--------------------|---------------|-----------------|--------------------|---------------|-----------------|------|-------------------------------|---------|
| Client ID | # | | Date/time | | | | | | | | | | | | | | |
| L28821-1 | | H-3 | | 10 ml | | | 0 | | 10-jun-06 00:09 | LS5 | 495 | 135 | 3.27 | 135 | .199 | | EJ |
| WG-DN-DSP-121-052606-J | | | | | | | | | | | | | | | | | |
| Activity: 9.07E+01 | | Error: 1.03E+02 | | MDC: 1.65E+02 * | | | 0 | | 10-jun-06 02:27 | LS5 | 482 | 135 | 3.27 | 135 | .199 | | SO |
| L28821-2 | | H-3 | | 10 ml | | | 0 | | 10-jun-06 04:45 | LS5 | 653 | 135 | 3.27 | 135 | .199 | | SO |
| WG-DN-DSP-117-052606-J | | | | | | | | | | | | | | | | | |
| Activity: 6.81E+01 | | Error: 1.02E+02 | | MDC: 1.65E+02 * | | | 0 | | 10-jun-06 07:03 | LS5 | 545 | 135 | 3.27 | 135 | .196 | | SO |
| L28821-3 | | H-3 | | 10 ml | | | 0 | | 10-jun-06 09:22 | LS5 | 528 | 135 | 3.27 | 135 | .196 | | SO |
| WG-DN-DSP-148-053006-J | | | | | | | | | | | | | | | | | |
| Activity: 3.56E+02 * | | Error: 1.11E+02 | | MDC: 1.64E+02 | | | 0 | | 10-jun-06 11:40 | LS5 | 487 | 135 | 3.27 | 135 | .197 | | SO |
| L28821-4 | | H-3 | | 10 ml | | | 0 | | 10-jun-06 13:58 | LS5 | 1305 | 135 | 3.27 | 135 | .201 | | SO |
| WG-DN-DSP-156-053006-J | | | | | | | | | | | | | | | | | |
| Activity: 1.77E+02 * | | Error: 1.07E+02 | | MDC: 1.67E+02 | | | 0 | | 10-jun-06 16:17 | LS5 | 493 | 135 | 3.27 | 135 | .201 | | SO |
| L28821-5 | | H-3 | | 10 ml | | | 0 | | | | | | | | | | |
| WG-DN-DSP-DN-118-05250 | | | | | | | | | | | | | | | | | |
| Activity: 7.79E+01 | | Error: 1.03E+02 | | MDC: 1.66E+02 * | | | 0 | | | | | | | | | | |
| L28821-6 | | H-3 | | 10 ml | | | 0 | | | | | | | | | | |
| WG-DN-DSP-DN-155-05250 | | | | | | | | | | | | | | | | | |
| Activity: 1.47E+02 | | Error: 1.06E+02 | | MDC: 1.67E+02 * | | | 0 | | | | | | | | | | |
| L28821-7 | | H-3 | | 10 ml | | | 0 | | | | | | | | | | |
| WG-DN-DSP-DN-122-05250 | | | | | | | | | | | | | | | | | |
| Activity: 1.44E+03 * | | Error: 1.39E+02 | | MDC: 1.63E+02 | | | 0 | | | | | | | | | | |
| L28821-8 | | H-3 | | 10 ml | | | 0 | | | | | | | | | | |
| WG-DN-DSP-DN-127-05300 | | | | | | | | | | | | | | | | | |
| Activity: 8.53E+01 | | Error: 1.02E+02 | | MDC: 1.63E+02 * | | | 0 | | | | | | | | | | |

Raw Data Sheet (rawdata)
Jun 12 2006, 10:12 am

Page: 2

Work Order: L28821

Customer: Exelon

Nuclide: SR-90 (FAST)

Project : EX001-3ESPDRES-06

| Sample ID | Run | Analysis | Reference | Volume/ | Scavenge | Milking | Mount | Count | Counter | Total | Sample | Bkg | Bkg | Eff. | Decay & Ingrowth | Analyst |
|------------------------|-----|-----------------|-----------|-----------------|-----------|-----------|--------|----------|-----------|-------|--------|---------|--------|---------|------------------|---------|
| Client ID | # | | Date/time | Aliquot | Date/time | Date/time | Weight | Recovery | Date/time | ID | counts | dt(min) | counts | dt(min) | Factor | |
| L28821-1 | | TOTAL SR | 26-may-06 | | 11-jun-06 | | 0 | | 12-jun-06 | X1A | 331 | 400 | 308 | 400 | .346 .999 | LCB |
| WG-DN-DSP-121-052606-J | | | 15:20 | 450 ml | 13:00 | | | 85.75 | 08:10 | | | | | | | |
| Activity: 1.94E-01 | | Error: 4.27E-01 | | MDC: 6.91E-01 * | | | | | | | | | | | | |
| L28821-2 | | TOTAL SR | 26-may-06 | | 11-jun-06 | | 0 | | 12-jun-06 | X1B | 378 | 400 | 342 | 400 | .343 .999 | LCB |
| WG-DN-DSP-117-052606-J | | | 16:55 | 450 ml | 13:00 | | | 85.75 | 08:10 | | | | | | | |
| Activity: 3.06E-01 | | Error: 4.57E-01 | | MDC: 7.33E-01 * | | | | | | | | | | | | |
| L28821-3 | | TOTAL SR | 30-may-06 | | 11-jun-06 | | 0 | | 12-jun-06 | X1C | 364 | 400 | 289 | 400 | .354 .999 | LCB |
| WG-DN-DSP-148-053006-J | | | 13:50 | 450 ml | 13:00 | | | 81.99 | 08:10 | | | | | | | |
| Activity: 6.47E-01 | | Error: 4.41E-01 | | MDC: 6.84E-01 * | | | | | | | | | | | | |
| L28821-4 | | TOTAL SR | 30-may-06 | | 11-jun-06 | | 0 | | 12-jun-06 | X2A | 321 | 400 | 264 | 400 | .354 .999 | LCB |
| WG-DN-DSP-156-053006-J | | | 15:50 | 450 ml | 13:00 | | | 48.39 | 08:10 | | | | | | | |
| Activity: 8.33E-01 | | Error: 7.07E-01 | | MDC: 1.11E+00 * | | | | | | | | | | | | |
| L28821-5 | | TOTAL SR | 25-may-06 | | 11-jun-06 | | 0 | | 12-jun-06 | X2B | 360 | 400 | 289 | 400 | .345 .999 | LCB |
| WG-DN-DSP-DN-118-05250 | | | 10:15 | 450 ml | 13:00 | | | 54.03 | 08:10 | | | | | | | |
| Activity: 9.54E-01 | | Error: 6.85E-01 | | MDC: 1.06E+00 * | | | | | | | | | | | | |
| L28821-6 | | TOTAL SR | 25-may-06 | | 11-jun-06 | | 0 | | 12-jun-06 | X2C | 355 | 400 | 277 | 400 | .344 .999 | LCB |
| WG-DN-DSP-DN-155-05250 | | | 15:00 | 450 ml | 13:00 | | | 85.22 | 08:10 | | | | | | | |
| Activity: 6.67E-01 | | Error: 4.3E-01 | | MDC: 6.63E-01 | | | | | | | | | | | | |
| L28821-7 | | TOTAL SR | 25-may-06 | | 11-jun-06 | | 0 | | 12-jun-06 | X2D | 337 | 400 | 307 | 400 | .343 .999 | LCB |
| WG-DN-DSP-DN-122-05250 | | | 17:00 | 450 ml | 13:00 | | | 78.23 | 08:10 | | | | | | | |
| Activity: 2.8E-01 | | Error: 4.74E-01 | | MDC: 7.62E-01 * | | | | | | | | | | | | |
| L28821-8 | | TOTAL SR | 30-may-06 | | 11-jun-06 | | 0 | | 12-jun-06 | X3A | 406 | 400 | 363 | 400 | .335 .999 | LCB |
| WG-DN-DSP-DN-127-05300 | | | 10:55 | 450 ml | 13:00 | | | 76.88 | 08:10 | | | | | | | |
| Activity: 4.18E-01 | | Error: 5.39E-01 | | MDC: 8.63E-01 * | | | | | | | | | | | | |

Sec. Review: Analyst: LIMS: ✓

=====

VAX/VMS Teledyne Brown Eng. Laboratory Gamma Report: 8-JUN-2006 16:21:58.59

TBE15 P-10635B HpGe ***** Aquisition Date/Time: 8-JUN-2006 10:04:49.05

LIMS No., Customer Name, Client ID: WG L28821-1 DRESDEN

Sample ID : 15L28821-1 Sample Date: 26-MAY-2006 15:20:00.

Sample Type : WG Geometry : 1535L090104

Quantity : 3.46740E+00 L BKGFIL : 15BG060306MT

Start Channel : 40 Energy Tol : 1.50000 Real Time : 0 06:17:02.80

End Channel : 4090 Pk Srch Sens: 5.00000 Live time : 0 06:17:00.47

MDA Constant : 0.00 Library Used: LIBD

| Pk | It | Energy | Area | Bkgnd | FWHM | Channel | %Eff | Cts/Sec | %Err | Fit |
|----|----|----------|------|-------|------|---------|----------|----------|------|----------|
| 1 | 1 | 66.59 | 175 | 639 | 1.45 | 120.65 | 4.42E-01 | 7.72E-03 | 26.2 | 2.54E-01 |
| 2 | 1 | 139.77 | 117 | 564 | 1.47 | 267.82 | 1.48E+00 | 5.17E-03 | 36.5 | 9.37E-01 |
| 3 | 1 | 198.07 | 131 | 435 | 1.27 | 385.06 | 1.37E+00 | 5.78E-03 | 28.9 | 7.63E-01 |
| 4 | 1 | 238.47* | 117 | 436 | 2.30 | 466.31 | 1.23E+00 | 5.16E-03 | 39.4 | 1.87E+00 |
| 5 | 1 | 351.58* | 59 | 233 | 1.31 | 693.74 | 9.16E-01 | 2.59E-03 | 54.9 | 1.78E+00 |
| 6 | 1 | 583.93 | 89 | 193 | 5.35 | 1160.80 | 6.07E-01 | 3.96E-03 | 38.5 | 1.56E+00 |
| 7 | 1 | 595.63 | 84 | 178 | 1.66 | 1184.32 | 5.97E-01 | 3.71E-03 | 35.5 | 5.34E-01 |
| 8 | 1 | 608.50 | 145 | 140 | 2.85 | 1210.19 | 5.87E-01 | 6.43E-03 | 20.3 | 2.17E+00 |
| 9 | 1 | 910.54 | 58 | 71 | 2.56 | 1817.12 | 4.23E-01 | 2.56E-03 | 32.9 | 1.26E+00 |
| 10 | 1 | 1459.79* | 57 | 36 | 2.79 | 2920.17 | 2.91E-01 | 2.53E-03 | 36.5 | 1.54E+00 |
| 11 | 1 | 1702.20 | 37 | 32 | 6.39 | 3406.75 | 2.60E-01 | 1.64E-03 | 36.3 | 4.09E+00 |
| 12 | 1 | 1763.92 | 42 | 26 | 1.81 | 3530.62 | 2.54E-01 | 1.85E-03 | 30.9 | 1.48E+00 |

Flag: "*" = Peak area was modified by background subtraction

Nuclide Line Activity Report

Nuclide Type: natural

| Nuclide | Energy | Area | %Abn | %Eff | Uncorrected pCi/L | Decay Corr pCi/L | 2-Sigma %Error |
|---------|---------|-------|--------|-----------|-------------------|------------------|----------------|
| K-40 | 1460.81 | 57 | 10.67* | 2.909E-01 | 6.357E+01 | 6.357E+01 | 73.03 |
| AC-228 | 835.50 | ----- | 1.75 | 4.539E-01 | ----- | Line Not Found | ----- |
| | 911.07 | 58 | 27.70* | 4.233E-01 | 1.698E+01 | 1.706E+01 | 65.78 |
| TH-228 | 238.63 | 117 | 44.60* | 1.225E+00 | 7.365E+00 | 7.460E+00 | 78.88 |
| | 240.98 | ----- | 3.95 | 1.217E+00 | ----- | Line Not Found | ----- |
| TH-232 | 583.14 | 89 | 30.25 | 6.069E-01 | 1.680E+01 | 1.680E+01 | 77.06 |
| | 911.07 | 58 | 27.70* | 4.233E-01 | 1.698E+01 | 1.698E+01 | 65.78 |
| | 969.11 | ----- | 16.60 | 4.025E-01 | ----- | Line Not Found | ----- |

Flag: "*" = Keyline

Summary of Nuclide Activity
Sample ID : 15L28821-1

Acquisition date : 8-JUN-2006 10:04:49

Total number of lines in spectrum 12
Number of unidentified lines 8
Number of lines tentatively identified by NID 4 33.33%

Nuclide Type : natural

| Nuclide | Hlife | Decay | Uncorrected pCi/L | Decay Corr pCi/L | Decay Corr 2-Sigma Error | 2-Sigma %Error | Flags |
|------------------|-----------|-------|----------------------|---------------------|-----------------------------|-------------------|-------|
| K-40 | 1.28E+09Y | 1.00 | 6.357E+01 | 6.357E+01 | 4.643E+01 | 73.03 | |
| AC-228 | 5.75Y | 1.00 | 1.698E+01 | 1.706E+01 | 1.122E+01 | 65.78 | |
| TH-228 | 1.91Y | 1.01 | 7.365E+00 | 7.460E+00 | 5.884E+00 | 78.88 | |
| TH-232 | 1.41E+10Y | 1.00 | 1.698E+01 | 1.698E+01 | 1.117E+01 | 65.78 | |
| Total Activity : | | | 1.049E+02 | 1.051E+02 | | | |

Grand Total Activity : 1.049E+02 1.051E+02

Flags: "K" = Keyline not found
"E" = Manually edited

"M" = Manually accepted
"A" = Nuclide specific abn. limit

Unidentified Energy Lines
Sample ID : 15L28821-1

Acquisition date : 8-JUN-2006 10:04:49

| It | Energy | Area | Bkgnd | FWHM | Channel | Left | Pw | Cts/Sec | %Err | %Eff | Flags |
|----|---------|------|-------|------|---------|------|----|----------|------|----------|-------|
| 1 | 66.59 | 175 | 639 | 1.45 | 120.65 | 117 | 8 | 7.72E-03 | 52.5 | 4.42E-01 | |
| 1 | 139.77 | 117 | 564 | 1.47 | 267.82 | 264 | 8 | 5.17E-03 | 73.1 | 1.48E+00 | |
| 1 | 198.07 | 131 | 435 | 1.27 | 385.06 | 381 | 8 | 5.78E-03 | 57.7 | 1.37E+00 | |
| 1 | 351.58 | 59 | 233 | 1.31 | 693.74 | 690 | 9 | 2.59E-03 | *** | 9.16E-01 | |
| 1 | 595.63 | 84 | 178 | 1.66 | 1184.32 | 1177 | 14 | 3.71E-03 | 71.0 | 5.97E-01 | |
| 1 | 608.50 | 145 | 140 | 2.85 | 1210.19 | 1203 | 16 | 6.43E-03 | 40.7 | 5.87E-01 | |
| 1 | 1702.20 | 37 | 32 | 6.39 | 3406.75 | 3397 | 16 | 1.64E-03 | 72.6 | 2.60E-01 | |
| 1 | 1763.92 | 42 | 26 | 1.81 | 3530.62 | 3525 | 14 | 1.85E-03 | 61.8 | 2.54E-01 | |

Flags: "T" = Tentatively associated

Summary of Nuclide Activity

Total number of lines in spectrum 12
 Number of unidentified lines 8
 Number of lines tentatively identified by NID 4 33.33%

Nuclide Type : natural

| Nuclide | Hlife | Decay | Wtd Mean Uncorrected pCi/L | Wtd Mean Decay Corr pCi/L | Decay Corr 2-Sigma Error | 2-Sigma %Error | Flags |
|------------------|-----------|-------|----------------------------------|---------------------------------|-----------------------------|-------------------|-------|
| K-40 | 1.28E+09Y | 1.00 | 6.357E+01 | 6.357E+01 | 4.643E+01 | 73.03 | |
| TH-228 | 1.91Y | 1.01 | 7.365E+00 | 7.460E+00 | 5.884E+00 | 78.88 | |
| TH-232 | 1.41E+10Y | 1.00 | 1.690E+01 | 1.690E+01 | 0.846E+01 | 50.03 | |
| Total Activity : | | | 8.784E+01 | 8.794E+01 | | | |

Grand Total Activity : 8.784E+01 8.794E+01

Flags: "K" = Keyline not found
 "E" = Manually edited

"M" = Manually accepted
 "A" = Nuclide specific abn. limit

Interference Report

| Interfering | | Interfered | |
|-------------|--------|------------|--------|
| Nuclide | Line | Nuclide | Line |
| TH-232 | 911.07 | AC-228 | 911.07 |

Combined Activity-MDA Report

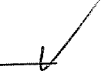
---- Identified Nuclides ----

| Nuclide | Activity (pCi/L) | Act error | MDA (pCi/L) | MDA error | Act/MDA |
|---------|---------------------|-----------|----------------|-----------|---------|
| K-40 | 6.357E+01 | 4.643E+01 | 4.394E+01 | 0.000E+00 | 1.447 |
| TH-228 | 7.460E+00 | 5.884E+00 | 7.660E+00 | 0.000E+00 | 0.974 |
| TH-232 | 1.690E+01 | 8.458E+00 | 1.621E+01 | 0.000E+00 | 1.043 |

---- Non-Identified Nuclides ----

| Nuclide | Key-Line Activity (pCi/L) | K.L. Ided | Act error | MDA (pCi/L) | MDA error | Act/MDA |
|---------|---------------------------------|--------------|-----------|---------------------|-----------|---------|
| BE-7 | -1.297E+01 | | 2.611E+01 | 4.258E+01 | 0.000E+00 | -0.305 |
| NA-24 | -4.750E+00 | | 2.581E+00 | Half-Life too short | | |
| CR-51 | -1.894E+01 | | 3.181E+01 | 5.166E+01 | 0.000E+00 | -0.367 |
| MN-54 | -3.263E-01 | | 2.873E+00 | 4.702E+00 | 0.000E+00 | -0.069 |
| CO-57 | -8.842E-01 | | 2.739E+00 | 4.234E+00 | 0.000E+00 | -0.209 |
| CO-58 | 1.084E+00 | | 3.026E+00 | 5.090E+00 | 0.000E+00 | 0.213 |
| FE-59 | 3.921E+00 | | 6.523E+00 | 1.117E+01 | 0.000E+00 | 0.351 |
| CO-60 | -1.340E+00 | | 2.977E+00 | 4.678E+00 | 0.000E+00 | -0.286 |
| ZN-65 | 9.189E+00 | | 6.286E+00 | 1.127E+01 | 0.000E+00 | 0.815 |
| SE-75 | -2.231E+00 | | 3.865E+00 | 6.135E+00 | 0.000E+00 | -0.364 |
| SR-85 | 1.725E+01 | | 3.419E+00 | 6.553E+00 | 0.000E+00 | 2.632 |
| Y-88 | -8.327E-01 | | 3.165E+00 | 5.111E+00 | 0.000E+00 | -0.163 |
| NB-94 | 9.981E-01 | | 2.729E+00 | 4.511E+00 | 0.000E+00 | 0.221 |
| NB-95 | -1.589E+00 | | 3.104E+00 | 5.007E+00 | 0.000E+00 | -0.317 |
| ZR-95 | -3.346E+00 | | 5.374E+00 | 8.615E+00 | 0.000E+00 | -0.388 |
| MO-99 | -1.286E+01 | | 5.240E+02 | 8.689E+02 | 0.000E+00 | -0.015 |
| RU-103 | 3.627E-01 | | 3.527E+00 | 5.877E+00 | 0.000E+00 | 0.062 |
| RU-106 | 1.714E+01 | | 2.684E+01 | 4.523E+01 | 0.000E+00 | 0.379 |
| AG-110m | -1.433E+00 | | 2.804E+00 | 4.452E+00 | 0.000E+00 | -0.322 |
| SN-113 | 4.679E+00 | | 3.779E+00 | 6.456E+00 | 0.000E+00 | 0.725 |
| SB-124 | 3.199E+00 | | 6.138E+00 | 4.947E+00 | 0.000E+00 | 0.647 |
| SB-125 | 3.659E+00 | | 7.926E+00 | 1.313E+01 | 0.000E+00 | 0.279 |
| TE-129M | 1.485E+01 | | 4.157E+01 | 6.827E+01 | 0.000E+00 | 0.217 |
| I-131 | -2.412E+00 | | 8.071E+00 | 1.311E+01 | 0.000E+00 | -0.184 |
| BA-133 | 4.770E+00 | | 4.146E+00 | 6.136E+00 | 0.000E+00 | 0.777 |
| CS-134 | 6.953E+00 | | 4.997E+00 | 5.188E+00 | 0.000E+00 | 1.340 |
| CS-136 | 1.044E+00 | | 5.267E+00 | 8.781E+00 | 0.000E+00 | 0.119 |
| CS-137 | 1.609E+00 | | 2.976E+00 | 4.982E+00 | 0.000E+00 | 0.323 |
| CE-139 | -8.001E-01 | | 2.698E+00 | 4.430E+00 | 0.000E+00 | -0.181 |
| BA-140 | -1.928E+01 | | 1.887E+01 | 2.972E+01 | 0.000E+00 | -0.649 |
| LA-140 | 4.053E+00 | | 5.996E+00 | 1.042E+01 | 0.000E+00 | 0.389 |
| CE-141 | 2.439E+00 | | 6.225E+00 | 8.973E+00 | 0.000E+00 | 0.272 |
| CE-144 | 2.352E+00 | | 2.305E+01 | 3.305E+01 | 0.000E+00 | 0.071 |
| EU-152 | -1.238E+01 | | 9.952E+00 | 1.356E+01 | 0.000E+00 | -0.913 |
| EU-154 | -1.818E+00 | | 5.619E+00 | 8.685E+00 | 0.000E+00 | -0.209 |
| RA-226 | -6.082E+01 | | 7.061E+01 | 1.077E+02 | 0.000E+00 | -0.565 |
| AC-228 | 1.706E+01 | | 1.122E+01 | 1.822E+01 | 0.000E+00 | 0.936 |
| U-235 | 3.922E+00 | | 2.213E+01 | 3.168E+01 | 0.000E+00 | 0.124 |
| U-238 | 4.326E+02 | | 3.127E+02 | 5.514E+02 | 0.000E+00 | 0.784 |
| AM-241 | -2.600E+01 | | 3.233E+01 | 4.998E+01 | 0.000E+00 | -0.520 |

A,15L28821-1 ,06/08/2006 16:21,05/26/2006 15:20, 3.467E+00,WG L28821-1 DR
 B,15L28821-1 ,LIBD ,06/06/2006 10:43,1535L090104
 C,K-40 ,YES, 6.357E+01, 4.643E+01, 4.394E+01,, 1.447
 C,TH-228 ,YES, 7.460E+00, 5.884E+00, 7.660E+00,, 0.974
 C,TH-232 ,YES, 1.690E+01, 8.458E+00, 1.621E+01,, 1.043
 C,BE-7 ,NO, -1.297E+01, 2.611E+01, 4.258E+01,, -0.305
 C,CR-51 ,NO, -1.894E+01, 3.181E+01, 5.166E+01,, -0.367
 C,MN-54 ,NO, -3.263E-01, 2.873E+00, 4.702E+00,, -0.069
 C,CO-57 ,NO, -8.842E-01, 2.739E+00, 4.234E+00,, -0.209
 C,CO-58 ,NO, 1.084E+00, 3.026E+00, 5.090E+00,, 0.213
 C,FE-59 ,NO, 3.921E+00, 6.523E+00, 1.117E+01,, 0.351
 C,CO-60 ,NO, -1.340E+00, 2.977E+00, 4.678E+00,, -0.286
 C,ZN-65 ,NO, 9.189E+00, 6.286E+00, 1.127E+01,, 0.815
 C,SE-75 ,NO, -2.231E+00, 3.865E+00, 6.135E+00,, -0.364
 C,SR-85 ,NO, 1.725E+01, 3.419E+00, 6.553E+00,, 2.632
 C,Y-88 ,NO, -8.327E-01, 3.165E+00, 5.111E+00,, -0.163
 C,NB-94 ,NO, 9.981E-01, 2.729E+00, 4.511E+00,, 0.221
 C,NB-95 ,NO, -1.589E+00, 3.104E+00, 5.007E+00,, -0.317
 C,ZR-95 ,NO, -3.346E+00, 5.374E+00, 8.615E+00,, -0.388
 C,MO-99 ,NO, -1.286E+01, 5.240E+02, 8.689E+02,, -0.015
 C,RU-103 ,NO, 3.627E-01, 3.527E+00, 5.877E+00,, 0.062
 C,RU-106 ,NO, 1.714E+01, 2.684E+01, 4.523E+01,, 0.379
 C,AG-110m ,NO, -1.433E+00, 2.804E+00, 4.452E+00,, -0.322
 C,SN-113 ,NO, 4.679E+00, 3.779E+00, 6.456E+00,, 0.725
 C,SB-124 ,NO, 3.199E+00, 6.138E+00, 4.947E+00,, 0.647
 C,SB-125 ,NO, 3.659E+00, 7.926E+00, 1.313E+01,, 0.279
 C,TE-129M ,NO, 1.485E+01, 4.157E+01, 6.827E+01,, 0.217
 C,I-131 ,NO, -2.412E+00, 8.071E+00, 1.311E+01,, -0.184
 C,BA-133 ,NO, 4.770E+00, 4.146E+00, 6.136E+00,, 0.777
 C,CS-134 ,NO, 6.953E+00, 4.997E+00, 5.188E+00,, 1.340
 C,CS-136 ,NO, 1.044E+00, 5.267E+00, 8.781E+00,, 0.119
 C,CS-137 ,NO, 1.609E+00, 2.976E+00, 4.982E+00,, 0.323
 C,CE-139 ,NO, -8.001E-01, 2.698E+00, 4.430E+00,, -0.181
 C,BA-140 ,NO, -1.928E+01, 1.887E+01, 2.972E+01,, -0.649
 C,LA-140 ,NO, 4.053E+00, 5.996E+00, 1.042E+01,, 0.389
 C,CE-141 ,NO, 2.439E+00, 6.225E+00, 8.973E+00,, 0.272
 C,CE-144 ,NO, 2.352E+00, 2.305E+01, 3.305E+01,, 0.071
 C,EU-152 ,NO, -1.238E+01, 9.952E+00, 1.356E+01,, -0.913
 C,EU-154 ,NO, -1.818E+00, 5.619E+00, 8.685E+00,, -0.209
 C,RA-226 ,NO, -6.082E+01, 7.061E+01, 1.077E+02,, -0.565
 C,AC-228 ,NO, 1.706E+01, 1.122E+01, 1.822E+01,, 0.936
 C,U-235 ,NO, 3.922E+00, 2.213E+01, 3.168E+01,, 0.124
 C,U-238 ,NO, 4.326E+02, 3.127E+02, 5.514E+02,, 0.784
 C,AM-241 ,NO, -2.600E+01, 3.233E+01, 4.998E+01,, -0.520

Sec. Review: Analyst: LIMS: 

=====

VAX/VMS Teledyne Brown Eng. Laboratory Gamma Report: 8-JUN-2006 16:22:10.02

TBE23 03017322 HpGe ***** Aquisition Date/Time: 8-JUN-2006 10:18:10.59

LIMS No., Customer Name, Client ID: WG L28821-2 DRESDEN

| | | | |
|---------------|-----------------|---------------|-----------------------|
| Sample ID | : 23L28821-2 | Smple Date: | 26-MAY-2006 16:55:00. |
| Sample Type | : WG | Geometry | : 2335L090704 |
| Quantity | : 3.47740E+00 L | BKGFILE | : 23BG060306MT |
| Start Channel | : 50 | Energy Tol | : 1.50000 |
| End Channel | : 4090 | Real Time | : 0 06:03:48.22 |
| MDA Constant | : 0.00 | Pk Srch Sens: | 5.00000 |
| | | Live time | : 0 06:03:33.10 |
| | | Library Used: | LIBD |

| Pk | It | Energy | Area | Bkgnd | FWHM | Channel | %Eff | Cts/Sec | %Err | Fit |
|----|----|----------|------|-------|------|---------|----------|----------|-------|----------|
| 1 | 7 | 33.58* | 25 | 31 | 0.92 | 67.49 | 9.07E-02 | 1.15E-03 | 102.1 | 3.02E+00 |
| 2 | 7 | 36.27* | 9 | 163 | 1.84 | 72.87 | 1.35E-01 | 4.30E-04 | 491.2 | |
| 3 | 7 | 39.95* | 64 | 431 | 2.36 | 80.22 | 2.12E-01 | 2.93E-03 | 78.9 | |
| 4 | 0 | 64.06* | 243 | 1452 | 3.88 | 128.40 | 9.66E-01 | 1.11E-02 | 37.8 | |
| 5 | 0 | 92.72* | 57 | 1019 | 1.32 | 185.68 | 1.70E+00 | 2.63E-03 | 117.7 | |
| 6 | 0 | 139.65* | 167 | 844 | 1.29 | 279.47 | 2.05E+00 | 7.67E-03 | 35.6 | |
| 7 | 0 | 198.06* | 152 | 684 | 1.58 | 396.22 | 1.90E+00 | 6.98E-03 | 36.4 | |
| 8 | 0 | 238.35* | 38 | 437 | 1.18 | 476.73 | 1.73E+00 | 1.73E-03 | 115.1 | |
| 9 | 0 | 351.77* | 8 | 272 | 1.65 | 703.45 | 1.32E+00 | 3.62E-04 | 454.7 | |
| 10 | 0 | 499.42 | 85 | 259 | 1.71 | 998.59 | 1.00E+00 | 3.90E-03 | 43.4 | |
| 11 | 0 | 582.62* | 27 | 158 | 1.83 | 1164.94 | 8.89E-01 | 1.26E-03 | 108.3 | |
| 12 | 0 | 594.96 | 105 | 188 | 4.79 | 1189.61 | 8.75E-01 | 4.81E-03 | 30.8 | |
| 13 | 0 | 911.08* | 28 | 74 | 2.33 | 1821.70 | 6.38E-01 | 1.29E-03 | 75.2 | |
| 14 | 0 | 1460.63* | 8 | 40 | 1.74 | 2920.90 | 4.59E-01 | 3.45E-04 | 318.6 | |

Flag: "*" = Peak area was modified by background subtraction

Nuclide Line Activity Report

Nuclide Type: natural

| Nuclide | Energy | Area | %Abn | %Eff | Uncorrected pCi/L | Decay Corr pCi/L | 2-Sigma %Error |
|---------|---------|-------|--------|-----------|----------------------|---------------------|-------------------|
| K-40 | 1460.81 | 8 | 10.67* | 4.595E-01 | 5.474E+00 | 5.474E+00 | 637.18 |
| AC-228 | 835.50 | ----- | 1.75 | 6.790E-01 | ----- | Line Not Found | ----- |
| | 911.07 | 28 | 27.70* | 6.383E-01 | 5.669E+00 | 5.693E+00 | 150.32 |
| TH-228 | 238.63 | 38 | 44.60* | 1.726E+00 | 1.747E+00 | 1.769E+00 | 230.23 |
| | 240.98 | ----- | 3.95 | 1.714E+00 | ----- | Line Not Found | ----- |
| TH-232 | 583.14 | 27 | 30.25 | 8.890E-01 | 3.630E+00 | 3.630E+00 | 216.59 |
| | 911.07 | 28 | 27.70* | 6.383E-01 | 5.669E+00 | 5.669E+00 | 150.32 |
| | 969.11 | ----- | 16.60 | 6.111E-01 | ----- | Line Not Found | ----- |

Flag: "*" = Keyline

Summary of Nuclide Activity
 Sample ID : 23L28821-2

Acquisition date : 8-JUN-2006 10:18:10

Total number of lines in spectrum 14
 Number of unidentified lines 10
 Number of lines tentatively identified by NID 4 28.57%

Nuclide Type : natural

| Nuclide | Hlife | Decay | Uncorrected pCi/L | Decay Corr pCi/L | Decay Corr 2-Sigma Error | 2-Sigma %Error | Flags |
|------------------|-----------|-------|----------------------|---------------------|-----------------------------|-------------------|-------|
| K-40 | 1.28E+09Y | 1.00 | 5.474E+00 | 5.474E+00 | 34.88E+00 | 637.18 | |
| AC-228 | 5.75Y | 1.00 | 5.669E+00 | 5.693E+00 | 8.558E+00 | 150.32 | |
| TH-228 | 1.91Y | 1.01 | 1.747E+00 | 1.769E+00 | 4.073E+00 | 230.23 | |
| TH-232 | 1.41E+10Y | 1.00 | 5.669E+00 | 5.669E+00 | 8.522E+00 | 150.32 | |
| Total Activity : | | | 1.856E+01 | 1.860E+01 | | | |

Grand Total Activity : 1.856E+01 1.860E+01

Flags: "K" = Keyline not found
 "E" = Manually edited

"M" = Manually accepted
 "A" = Nuclide specific abn. limit

Unidentified Energy Lines
Sample ID : 23L28821-2

Acquisition date : 8-JUN-2006 10:18:10

| It | Energy | Area | Bkgnd | FWHM | Channel | Left | Pw | Cts/Sec | %Err | %Eff | Flags |
|----|--------|------|-------|------|---------|------|----|----------|------|----------|-------|
| 7 | 33.58 | 25 | 31 | 0.92 | 67.49 | 64 | 26 | 1.15E-03 | **** | 9.07E-02 | |
| 7 | 36.27 | 9 | 163 | 1.84 | 72.87 | 64 | 26 | 4.30E-04 | **** | 1.35E-01 | |
| 7 | 39.95 | 64 | 431 | 2.36 | 80.22 | 64 | 26 | 2.93E-03 | **** | 2.12E-01 | |
| 0 | 64.06 | 243 | 1452 | 3.88 | 128.40 | 120 | 17 | 1.11E-02 | 75.6 | 9.66E-01 | |
| 0 | 92.72 | 57 | 1019 | 1.32 | 185.68 | 181 | 10 | 2.63E-03 | **** | 1.70E+00 | |
| 0 | 139.65 | 167 | 844 | 1.29 | 279.47 | 274 | 10 | 7.67E-03 | 71.3 | 2.05E+00 | |
| 0 | 198.06 | 152 | 684 | 1.58 | 396.22 | 391 | 11 | 6.98E-03 | 72.8 | 1.90E+00 | |
| 0 | 351.77 | 8 | 272 | 1.65 | 703.45 | 698 | 10 | 3.62E-04 | **** | 1.32E+00 | |
| 0 | 499.42 | 85 | 259 | 1.71 | 998.59 | 993 | 16 | 3.90E-03 | 86.9 | 1.00E+00 | |
| 0 | 594.96 | 105 | 188 | 4.79 | 1189.61 | 1182 | 16 | 4.81E-03 | 61.7 | 8.75E-01 | |

Flags: "T" = Tentatively associated

Summary of Nuclide Activity

| | | |
|---|----|--------|
| Total number of lines in spectrum | 14 | |
| Number of unidentified lines | 10 | |
| Number of lines tentatively identified by NID | 4 | 28.57% |

Nuclide Type : natural

| Nuclide | Hlife | Decay | Wtd Mean Uncorrected pCi/L | Wtd Mean Decay Corr pCi/L | Decay Corr 2-Sigma Error | 2-Sigma %Error | Flags |
|------------------|-----------|-------|----------------------------------|---------------------------------|-----------------------------|-------------------|-------|
| K-40 | 1.28E+09Y | 1.00 | 5.474E+00 | 5.474E+00 | 34.88E+00 | 637.18 | |
| AC-228 | 5.75Y | 1.00 | 2.039E+00 | 2.048E+00 | 11.64E+00 | 568.53 | |
| TH-228 | 1.91Y | 1.01 | 1.747E+00 | 1.769E+00 | 4.073E+00 | 230.23 | |
| TH-232 | 1.41E+10Y | 1.00 | 3.630E+00 | 3.630E+00 | 7.861E+00 | 216.59 | |
| Total Activity : | | | 1.289E+01 | 1.292E+01 | | | |

Grand Total Activity : 1.289E+01 1.292E+01

Flags: "K" = Keyline not found "M" = Manually accepted
"E" = Manually edited "A" = Nuclide specific abn. limit

Interference Report

| Interfering | | Interfered | |
|-------------|--------|------------|--------|
| Nuclide | Line | Nuclide | Line |
| TH-232 | 911.07 | AC-228 | 911.07 |

Combined Activity-MDA Report

---- Identified Nuclides ----

| Nuclide | Activity (pCi/L) | Act error | MDA (pCi/L) | MDA error | Act/MDA |
|---------|---------------------|-----------|----------------|-----------|---------|
| K-40 | 5.474E+00 | 3.488E+01 | 3.336E+01 | 0.000E+00 | 0.164 |
| AC-228 | 2.048E+00 | 1.164E+01 | 1.284E+01 | 0.000E+00 | 0.159 |
| TH-228 | 1.769E+00 | 4.073E+00 | 6.810E+00 | 0.000E+00 | 0.260 |

| | | | | | |
|--------|-----------|-----------|-----------|-----------|-------|
| TH-232 | 3.630E+00 | 7.861E+00 | 1.387E+01 | 0.000E+00 | 0.262 |
|--------|-----------|-----------|-----------|-----------|-------|

---- Non-Identified Nuclides ----

| Nuclide | Key-Line Activity (pCi/L) | K.L. Ided | Act error | MDA (pCi/L) | MDA error | Act/MDA |
|---------|---------------------------------|--------------|-----------|---------------------|-----------|---------|
| BE-7 | -7.629E+00 | | 2.042E+01 | 3.392E+01 | 0.000E+00 | -0.225 |
| NA-24 | -1.202E+00 | | 1.631E+00 | Half-Life too short | | |
| CR-51 | -6.224E+00 | | 2.465E+01 | 4.150E+01 | 0.000E+00 | -0.150 |
| MN-54 | -1.500E-01 | | 1.977E+00 | 3.372E+00 | 0.000E+00 | -0.044 |
| CO-57 | -1.680E+00 | | 2.414E+00 | 3.995E+00 | 0.000E+00 | -0.420 |
| CO-58 | -2.707E-01 | | 2.276E+00 | 3.870E+00 | 0.000E+00 | -0.070 |
| FE-59 | 3.641E-01 | | 4.273E+00 | 7.488E+00 | 0.000E+00 | 0.049 |
| CO-60 | -2.356E-01 | | 2.051E+00 | 3.535E+00 | 0.000E+00 | -0.067 |
| ZN-65 | 3.951E+00 | | 4.377E+00 | 7.974E+00 | 0.000E+00 | 0.495 |
| SE-75 | 1.156E+00 | | 3.086E+00 | 5.296E+00 | 0.000E+00 | 0.218 |
| SR-85 | 1.426E+01 | | 2.658E+00 | 5.148E+00 | 0.000E+00 | 2.771 |
| Y-88 | -8.805E-01 | | 2.316E+00 | 3.961E+00 | 0.000E+00 | -0.222 |
| NB-94 | -8.037E-01 | | 2.043E+00 | 3.440E+00 | 0.000E+00 | -0.234 |
| NB-95 | 3.485E-01 | | 2.258E+00 | 3.897E+00 | 0.000E+00 | 0.089 |
| ZR-95 | -5.569E-01 | | 4.135E+00 | 7.036E+00 | 0.000E+00 | -0.079 |
| MO-99 | -9.279E+01 | | 3.759E+02 | 6.375E+02 | 0.000E+00 | -0.146 |
| RU-103 | 3.365E+00 | | 3.082E+00 | 4.644E+00 | 0.000E+00 | 0.725 |
| RU-106 | -1.858E+01 | | 2.039E+01 | 3.373E+01 | 0.000E+00 | -0.551 |
| AG-110m | 1.039E-01 | | 1.991E+00 | 3.436E+00 | 0.000E+00 | 0.030 |
| SN-113 | 1.229E+00 | | 2.983E+00 | 5.105E+00 | 0.000E+00 | 0.241 |
| SB-124 | -5.930E+00 | | 2.969E+00 | 3.795E+00 | 0.000E+00 | -1.563 |
| SB-125 | -1.339E+00 | | 6.111E+00 | 1.024E+01 | 0.000E+00 | -0.131 |
| TE-129M | -2.124E+01 | | 3.073E+01 | 5.047E+01 | 0.000E+00 | -0.421 |
| I-131 | -2.700E+00 | | 6.470E+00 | 1.081E+01 | 0.000E+00 | -0.250 |
| BA-133 | 4.413E+00 | | 3.400E+00 | 5.156E+00 | 0.000E+00 | 0.856 |
| CS-134 | 6.298E-01 | | 2.487E+00 | 3.660E+00 | 0.000E+00 | 0.172 |
| CS-136 | 1.109E-01 | | 3.771E+00 | 6.472E+00 | 0.000E+00 | 0.017 |
| CS-137 | 1.853E-01 | | 2.152E+00 | 3.718E+00 | 0.000E+00 | 0.050 |
| CE-139 | -9.864E-01 | | 2.452E+00 | 4.051E+00 | 0.000E+00 | -0.243 |
| BA-140 | 1.243E+01 | | 1.504E+01 | 2.611E+01 | 0.000E+00 | 0.476 |
| LA-140 | 1.201E+00 | | 4.461E+00 | 8.025E+00 | 0.000E+00 | 0.150 |
| CE-141 | 4.798E+00 | | 5.956E+00 | 8.626E+00 | 0.000E+00 | 0.556 |
| CE-144 | -1.427E+01 | | 2.182E+01 | 3.044E+01 | 0.000E+00 | -0.469 |
| EU-152 | -7.664E+00 | | 8.257E+00 | 1.135E+01 | 0.000E+00 | -0.675 |
| EU-154 | -4.146E+00 | | 4.928E+00 | 8.133E+00 | 0.000E+00 | -0.510 |
| RA-226 | 8.888E+00 | | 6.358E+01 | 9.895E+01 | 0.000E+00 | 0.090 |
| U-235 | 1.031E+00 | | 2.233E+01 | 3.057E+01 | 0.000E+00 | 0.034 |
| U-238 | 2.603E+01 | | 2.409E+02 | 3.943E+02 | 0.000E+00 | 0.066 |
| AM-241 | 2.853E+01 | | 1.438E+01 | 2.130E+01 | 0.000E+00 | 1.340 |

A,23L28821-2 ,06/08/2006 16:22,05/26/2006 16:55, 3.477E+00,WG L28821-2 DR
 B,23L28821-2 ,LIBD ,06/01/2006 10:14,2335L090704
 C,K-40 ,YES, 5.474E+00, 3.488E+01, 3.336E+01,, 0.164
 C,AC-228 ,YES, 2.048E+00, 1.164E+01, 1.284E+01,, 0.159
 C,TH-228 ,YES, 1.769E+00, 4.073E+00, 6.810E+00,, 0.260
 C,TH-232 ,YES, 3.630E+00, 7.861E+00, 1.387E+01,, 0.262
 C,BE-7 ,NO, -7.629E+00, 2.042E+01, 3.392E+01,, -0.225
 C,CR-51 ,NO, -6.224E+00, 2.465E+01, 4.150E+01,, -0.150
 C,MN-54 ,NO, -1.500E-01, 1.977E+00, 3.372E+00,, -0.044
 C,CO-57 ,NO, -1.680E+00, 2.414E+00, 3.995E+00,, -0.420
 C,CO-58 ,NO, -2.707E-01, 2.276E+00, 3.870E+00,, -0.070
 C,FE-59 ,NO, 3.641E-01, 4.273E+00, 7.488E+00,, 0.049
 C,CO-60 ,NO, -2.356E-01, 2.051E+00, 3.535E+00,, -0.067
 C,ZN-65 ,NO, 3.951E+00, 4.377E+00, 7.974E+00,, 0.495
 C,SE-75 ,NO, 1.156E+00, 3.086E+00, 5.296E+00,, 0.218
 C,SR-85 ,NO, 1.426E+01, 2.658E+00, 5.148E+00,, 2.771
 C,Y-88 ,NO, -8.805E-01, 2.316E+00, 3.961E+00,, -0.222
 C,NB-94 ,NO, -8.037E-01, 2.043E+00, 3.440E+00,, -0.234
 C,NB-95 ,NO, 3.485E-01, 2.258E+00, 3.897E+00,, 0.089
 C,ZR-95 ,NO, -5.569E-01, 4.135E+00, 7.036E+00,, -0.079
 C,MO-99 ,NO, -9.279E+01, 3.759E+02, 6.375E+02,, -0.146
 C,RU-103 ,NO, 3.365E+00, 3.082E+00, 4.644E+00,, 0.725
 C,RU-106 ,NO, -1.858E+01, 2.039E+01, 3.373E+01,, -0.551
 C,AG-110m ,NO, 1.039E-01, 1.991E+00, 3.436E+00,, 0.030
 C,SN-113 ,NO, 1.229E+00, 2.983E+00, 5.105E+00,, 0.241
 C,SB-124 ,NO, -5.930E+00, 2.969E+00, 3.795E+00,, -1.563
 C,SB-125 ,NO, -1.339E+00, 6.111E+00, 1.024E+01,, -0.131
 C,TE-129M ,NO, -2.124E+01, 3.073E+01, 5.047E+01,, -0.421
 C,I-131 ,NO, -2.700E+00, 6.470E+00, 1.081E+01,, -0.250
 C,BA-133 ,NO, 4.413E+00, 3.400E+00, 5.156E+00,, 0.856
 C,CS-134 ,NO, 6.298E-01, 2.487E+00, 3.660E+00,, 0.172
 C,CS-136 ,NO, 1.109E-01, 3.771E+00, 6.472E+00,, 0.017
 C,CS-137 ,NO, 1.853E-01, 2.152E+00, 3.718E+00,, 0.050
 C,CE-139 ,NO, -9.864E-01, 2.452E+00, 4.051E+00,, -0.243
 C,BA-140 ,NO, 1.243E+01, 1.504E+01, 2.611E+01,, 0.476
 C,LA-140 ,NO, 1.201E+00, 4.461E+00, 8.025E+00,, 0.150
 C,CE-141 ,NO, 4.798E+00, 5.956E+00, 8.626E+00,, 0.556
 C,CE-144 ,NO, -1.427E+01, 2.182E+01, 3.044E+01,, -0.469
 C,EU-152 ,NO, -7.664E+00, 8.257E+00, 1.135E+01,, -0.675
 C,EU-154 ,NO, -4.146E+00, 4.928E+00, 8.133E+00,, -0.510
 C,RA-226 ,NO, 8.888E+00, 6.358E+01, 9.895E+01,, 0.090
 C,U-235 ,NO, 1.031E+00, 2.233E+01, 3.057E+01,, 0.034
 C,U-238 ,NO, 2.603E+01, 2.409E+02, 3.943E+02,, 0.066
 C,AM-241 ,NO, 2.853E+01, 1.438E+01, 2.130E+01,, 1.340

Sec. Review: Analyst: LIMS: ✓

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VAX/VMS Teledyne Brown Eng. Laboratory Gamma Report: 8-JUN-2006 14:39:41.06

TBE07 P-10768B HpGe ***** Aquisition Date/Time: 8-JUN-2006 12:14:05.20

LIMS No., Customer Name, Client ID: WG L28821-3 DRESDEN

| | | | |
|---------------|-----------------|---------------|-----------------------|
| Sample ID | : 07L28821-3 | Smple Date: | 30-MAY-2006 13:50:00. |
| Sample Type | : WG | Geometry | : 0735L090904 |
| Quantity | : 3.52840E+00 L | BKGFILE | : 07BG060306MT |
| Start Channel | : 40 | Energy Tol | : 1.00000 |
| End Channel | : 4090 | Real Time | : 0 02:25:27.59 |
| MDA Constant | : 0.00 | Pk Srch Sens: | 5.00000 |
| | | Live time | : 0 02:25:25.83 |
| | | Library Used: | LIBD |

| Pk | It | Energy | Area | Bkgnd | FWHM | Channel | %Eff | Cts/Sec | %Err | Fit |
|----|----|---------|------|-------|------|---------|----------|----------|------|----------|
| 1 | 1 | 140.25* | 97 | 247 | 1.58 | 281.18 | 2.09E+00 | 1.12E-02 | 33.3 | 2.35E+00 |
| 2 | 1 | 241.70 | 54 | 136 | 1.43 | 484.24 | 1.80E+00 | 6.20E-03 | 41.4 | 1.28E+00 |
| 3 | 1 | 296.19 | 83 | 230 | 7.36 | 593.27 | 1.60E+00 | 9.48E-03 | 43.2 | 3.69E+00 |
| 4 | 1 | 596.78 | 82 | 86 | 0.88 | 1194.73 | 9.95E-01 | 9.43E-03 | 24.5 | 1.84E+01 |
| 5 | 1 | 609.22* | 47 | 64 | 1.65 | 1219.61 | 9.81E-01 | 5.41E-03 | 41.3 | 1.44E+00 |
| 6 | 1 | 1294.10 | 32 | 22 | 5.99 | 2589.33 | 5.62E-01 | 3.62E-03 | 35.5 | 1.97E+00 |

Flag: "*" = Peak area was modified by background subtraction

Nuclide Line Activity Report

Flag: "*" = Keyline

Summary of Nuclide Activity
Sample ID : 07L28821-3

Acquisition date : 8-JUN-2006 12:14:05

| | | |
|--|---|--------|
| Total number of lines in spectrum | 6 | |
| Number of unidentified lines | 5 | |
| Number of lines tentatively identified by NID | 1 | 16.67% |
| **** There are no nuclides meeting summary criteria **** | | |

Flags: "K" = Keyline not found
"E" = Manually edited

"M" = Manually accepted
"A" = Nuclide specific abn. limit

Unidentified Energy Lines
Sample ID : 07L28821-3

Acquisition date : 8-JUN-2006 12:14:05

| It | Energy | Area | Bkgnd | FWHM | Channel | Left | Pw | Cts/Sec | %Err | %Eff | Flags |
|----|---------|------|-------|------|---------|------|----|----------|------|----------|-------|
| 1 | 140.25 | 97 | 247 | 1.58 | 281.18 | 276 | 10 | 1.12E-02 | 66.6 | 2.09E+00 | T |
| 1 | 241.70 | 54 | 136 | 1.43 | 484.24 | 474 | 16 | 6.20E-03 | 82.8 | 1.80E+00 | |
| 1 | 296.19 | 83 | 230 | 7.36 | 593.27 | 586 | 17 | 9.48E-03 | 86.4 | 1.60E+00 | |
| 1 | 596.78 | 82 | 86 | 0.88 | 1194.73 | 1188 | 13 | 9.43E-03 | 49.1 | 9.95E-01 | |
| 1 | 609.22 | 47 | 64 | 1.65 | 1219.61 | 1215 | 12 | 5.41E-03 | 82.6 | 9.81E-01 | |
| 1 | 1294.10 | 32 | 22 | 5.99 | 2589.33 | 2583 | 15 | 3.62E-03 | 71.1 | 5.62E-01 | |

Flags: "T" = Tentatively associated

Summary of Nuclide Activity

Total number of lines in spectrum 6
 Number of unidentified lines 5
 Number of lines tentatively identified by NID 1 16.67%
 **** There are no nuclides meeting summary criteria ****

Flags: "K" = Keyline not found "M" = Manually accepted
 "E" = Manually edited "A" = Nuclide specific abn. limit

Interference Report

No interference correction performed

Combined Activity-MDA Report

---- Non-Identified Nuclides ----

| Nuclide | Key-Line Activity (pCi/L) | K.L. Ided | Act error | MDA (pCi/L) | MDA error | Act/MDA |
|---------|---------------------------------|--------------|-----------|---------------------|-----------|---------|
| BE-7 | 1.357E+01 | | 2.907E+01 | 4.859E+01 | 0.000E+00 | 0.279 |
| NA-24 | -1.245E-03 | | 3.392E-02 | Half-Life too short | | |
| K-40 | 4.904E+01 | | 4.267E+01 | 8.281E+01 | 0.000E+00 | 0.592 |
| CR-51 | 1.373E+00 | | 2.993E+01 | 4.994E+01 | 0.000E+00 | 0.028 |
| MN-54 | 3.298E-01 | | 3.045E+00 | 5.071E+00 | 0.000E+00 | 0.065 |
| CO-57 | 2.136E+00 | | 3.125E+00 | 5.225E+00 | 0.000E+00 | 0.409 |
| CO-58 | -1.966E+00 | | 3.172E+00 | 5.005E+00 | 0.000E+00 | -0.393 |
| FE-59 | 4.136E+00 | | 6.211E+00 | 1.087E+01 | 0.000E+00 | 0.380 |
| CO-60 | -3.309E+00 | | 3.030E+00 | 4.323E+00 | 0.000E+00 | -0.765 |
| ZN-65 | 3.563E+00 | | 6.492E+00 | 1.123E+01 | 0.000E+00 | 0.317 |
| SE-75 | -1.033E+00 | | 4.172E+00 | 6.736E+00 | 0.000E+00 | -0.153 |
| SR-85 | 1.929E+01 | | 3.927E+00 | 7.785E+00 | 0.000E+00 | 2.478 |
| Y-88 | -2.251E+00 | | 3.382E+00 | 5.127E+00 | 0.000E+00 | -0.439 |
| NB-94 | 4.276E-02 | | 2.900E+00 | 4.738E+00 | 0.000E+00 | 0.009 |
| NB-95 | 2.844E+00 | | 3.274E+00 | 5.754E+00 | 0.000E+00 | 0.494 |
| ZR-95 | -1.314E+00 | | 5.813E+00 | 9.278E+00 | 0.000E+00 | -0.142 |
| MO-99 | 9.501E+00 | | 2.210E+02 | 3.606E+02 | 0.000E+00 | 0.026 |
| RU-103 | 6.266E-01 | | 3.759E+00 | 6.163E+00 | 0.000E+00 | 0.102 |
| RU-106 | -3.601E+01 | | 3.219E+01 | 4.764E+01 | 0.000E+00 | -0.756 |
| AG-110m | 8.186E-01 | | 3.123E+00 | 5.207E+00 | 0.000E+00 | 0.157 |
| SN-113 | 5.835E-01 | | 4.023E+00 | 6.677E+00 | 0.000E+00 | 0.087 |
| SB-124 | -3.400E+00 | | 8.794E+00 | 5.624E+00 | 0.000E+00 | -0.604 |

| | | | | | |
|---------|------------|-----------|-----------|-----------|--------|
| SB-125 | 4.873E+00 | 8.763E+00 | 1.480E+01 | 0.000E+00 | 0.329 |
| TE-129M | -3.117E+01 | 4.130E+01 | 6.442E+01 | 0.000E+00 | -0.484 |
| I-131 | -2.642E-01 | 6.518E+00 | 1.076E+01 | 0.000E+00 | -0.025 |
| BA-133 | 6.393E+00 | 4.485E+00 | 7.884E+00 | 0.000E+00 | 0.811 |
| CS-134 | 1.230E+01 | 5.489E+00 | 6.095E+00 | 0.000E+00 | 2.018 |
| CS-136 | 4.193E-01 | 4.603E+00 | 7.669E+00 | 0.000E+00 | 0.055 |
| CS-137 | -1.350E+00 | 3.348E+00 | 5.333E+00 | 0.000E+00 | -0.253 |
| CE-139 | 3.042E+00 | 3.083E+00 | 5.312E+00 | 0.000E+00 | 0.573 |
| BA-140 | -4.788E+00 | 1.599E+01 | 2.603E+01 | 0.000E+00 | -0.184 |
| LA-140 | -1.246E+00 | 5.529E+00 | 8.854E+00 | 0.000E+00 | -0.141 |
| CE-141 | 5.071E-01 | 6.858E+00 | 9.497E+00 | 0.000E+00 | 0.053 |
| CE-144 | -2.019E+00 | 2.787E+01 | 3.847E+01 | 0.000E+00 | -0.052 |
| EU-152 | -2.092E+01 | 1.027E+01 | 1.548E+01 | 0.000E+00 | -1.352 |
| EU-154 | 2.687E+00 | 6.468E+00 | 1.072E+01 | 0.000E+00 | 0.251 |
| RA-226 | 1.110E+02 | 7.866E+01 | 1.378E+02 | 0.000E+00 | 0.805 |
| AC-228 | 5.038E+00 | 1.192E+01 | 2.032E+01 | 0.000E+00 | 0.248 |
| TH-228 | 4.236E+00 | 6.790E+00 | 1.019E+01 | 0.000E+00 | 0.416 |
| TH-232 | 5.023E+00 | 1.188E+01 | 2.026E+01 | 0.000E+00 | 0.248 |
| U-235 | 1.740E+01 | 2.655E+01 | 3.794E+01 | 0.000E+00 | 0.459 |
| U-238 | -5.083E+01 | 3.610E+02 | 5.823E+02 | 0.000E+00 | -0.087 |
| AM-241 | -3.956E+01 | 3.010E+01 | 4.614E+01 | 0.000E+00 | -0.858 |

A,07L28821-3 ,06/08/2006 14:39,05/30/2006 13:50, 3.528E+00,WG L28821-3 DR
 B,07L28821-3 ,LIBD ,06/07/2006 09:32,0735L090904

| | | | | | |
|-----------|-------|-------------|------------|-------------|--------|
| C,BE-7 | ,NO , | 1.357E+01, | 2.907E+01, | 4.859E+01,, | 0.279 |
| C,K-40 | ,NO , | 4.904E+01, | 4.267E+01, | 8.281E+01,, | 0.592 |
| C,CR-51 | ,NO , | 1.373E+00, | 2.993E+01, | 4.994E+01,, | 0.028 |
| C,MN-54 | ,NO , | 3.298E-01, | 3.045E+00, | 5.071E+00,, | 0.065 |
| C,CO-57 | ,NO , | 2.136E+00, | 3.125E+00, | 5.225E+00,, | 0.409 |
| C,CO-58 | ,NO , | -1.966E+00, | 3.172E+00, | 5.005E+00,, | -0.393 |
| C,FE-59 | ,NO , | 4.136E+00, | 6.211E+00, | 1.087E+01,, | 0.380 |
| C,CO-60 | ,NO , | -3.309E+00, | 3.030E+00, | 4.323E+00,, | -0.765 |
| C,ZN-65 | ,NO , | 3.563E+00, | 6.492E+00, | 1.123E+01,, | 0.317 |
| C,SE-75 | ,NO , | -1.033E+00, | 4.172E+00, | 6.736E+00,, | -0.153 |
| C,SR-85 | ,NO , | 1.929E+01, | 3.927E+00, | 7.785E+00,, | 2.478 |
| C,Y-88 | ,NO , | -2.251E+00, | 3.382E+00, | 5.127E+00,, | -0.439 |
| C,NB-94 | ,NO , | 4.276E-02, | 2.900E+00, | 4.738E+00,, | 0.009 |
| C,NB-95 | ,NO , | 2.844E+00, | 3.274E+00, | 5.754E+00,, | 0.494 |
| C,ZR-95 | ,NO , | -1.314E+00, | 5.813E+00, | 9.278E+00,, | -0.142 |
| C,MO-99 | ,NO , | 9.501E+00, | 2.210E+02, | 3.606E+02,, | 0.026 |
| C,RU-103 | ,NO , | 6.266E-01, | 3.759E+00, | 6.163E+00,, | 0.102 |
| C,RU-106 | ,NO , | -3.601E+01, | 3.219E+01, | 4.764E+01,, | -0.756 |
| C,AG-110m | ,NO , | 8.186E-01, | 3.123E+00, | 5.207E+00,, | 0.157 |
| C,SN-113 | ,NO , | 5.835E-01, | 4.023E+00, | 6.677E+00,, | 0.087 |
| C,SB-124 | ,NO , | -3.400E+00, | 8.794E+00, | 5.624E+00,, | -0.604 |
| C,SB-125 | ,NO , | 4.873E+00, | 8.763E+00, | 1.480E+01,, | 0.329 |
| C,TE-129M | ,NO , | -3.117E+01, | 4.130E+01, | 6.442E+01,, | -0.484 |
| C,I-131 | ,NO , | -2.642E-01, | 6.518E+00, | 1.076E+01,, | -0.025 |
| C,BA-133 | ,NO , | 6.393E+00, | 4.485E+00, | 7.884E+00,, | 0.811 |
| C,CS-134 | ,NO , | 1.230E+01, | 5.489E+00, | 6.095E+00,, | 2.018 |
| C,CS-136 | ,NO , | 4.193E-01, | 4.603E+00, | 7.669E+00,, | 0.055 |
| C,CS-137 | ,NO , | -1.350E+00, | 3.348E+00, | 5.333E+00,, | -0.253 |
| C,CE-139 | ,NO , | 3.042E+00, | 3.083E+00, | 5.312E+00,, | 0.573 |
| C,BA-140 | ,NO , | -4.788E+00, | 1.599E+01, | 2.603E+01,, | -0.184 |
| C,LA-140 | ,NO , | -1.246E+00, | 5.529E+00, | 8.854E+00,, | -0.141 |
| C,CE-141 | ,NO , | 5.071E-01, | 6.858E+00, | 9.497E+00,, | 0.053 |
| C,CE-144 | ,NO , | -2.019E+00, | 2.787E+01, | 3.847E+01,, | -0.052 |
| C,EU-152 | ,NO , | -2.092E+01, | 1.027E+01, | 1.548E+01,, | -1.352 |
| C,EU-154 | ,NO , | 2.687E+00, | 6.468E+00, | 1.072E+01,, | 0.251 |
| C,RA-226 | ,NO , | 1.110E+02, | 7.866E+01, | 1.378E+02,, | 0.805 |
| C,AC-228 | ,NO , | 5.038E+00, | 1.192E+01, | 2.032E+01,, | 0.248 |
| C,TH-228 | ,NO , | 4.236E+00, | 6.790E+00, | 1.019E+01,, | 0.416 |
| C,TH-232 | ,NO , | 5.023E+00, | 1.188E+01, | 2.026E+01,, | 0.248 |
| C,U-235 | ,NO , | 1.740E+01, | 2.655E+01, | 3.794E+01,, | 0.459 |
| C,U-238 | ,NO , | -5.083E+01, | 3.610E+02, | 5.823E+02,, | -0.087 |
| C,AM-241 | ,NO , | -3.956E+01, | 3.010E+01, | 4.614E+01,, | -0.858 |

Sec. Review: Analyst: LIMS: ✓

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VAX/VMS Teledyne Brown Eng. Laboratory Gamma Report: 8-JUN-2006 18:25:45.18

TBE07 P-10768B HpGe ***** Aquisition Date/Time: 8-JUN-2006 12:14:05.20

LIMS No., Customer Name, Client ID: WG L28821-3 DRESDEN

| | | | |
|---------------|-----------------|---------------|-----------------------|
| Sample ID | : 07L28821-3 | Smple Date: | 30-MAY-2006 13:50:00. |
| Sample Type | : WG | Geometry | : 0735L090904 |
| Quantity | : 3.52840E+00 L | BKGFILE | : 07BG060306MT |
| Start Channel | : 40 | Energy Tol | : 1.00000 |
| End Channel | : 4090 | Real Time | : 0 02:25:27.59 |
| MDA Constant | : 0.00 | Live time | : 0 02:25:25.83 |
| | | Pk Srch Sens: | 5.00000 |
| | | Library Used: | LIBD |

| Pk | It | Energy | Area | Bkgnd | FWHM | Channel | %Eff | Cts/Sec | %Err | Fit |
|----|----|---------|------|-------|------|---------|----------|----------|------|----------|
| 1 | 1 | 140.25* | 97 | 247 | 1.58 | 281.18 | 2.09E+00 | 1.12E-02 | 33.3 | 2.35E+00 |
| 2 | 1 | 241.70 | 54 | 136 | 1.43 | 484.24 | 1.80E+00 | 6.20E-03 | 41.4 | 1.28E+00 |
| 3 | 1 | 296.19 | 83 | 230 | 7.36 | 593.27 | 1.60E+00 | 9.48E-03 | 43.2 | 3.69E+00 |
| 4 | 1 | 596.78 | 82 | 86 | 0.88 | 1194.73 | 9.95E-01 | 9.43E-03 | 24.5 | 1.84E+01 |
| 5 | 1 | 609.22* | 47 | 64 | 1.65 | 1219.61 | 9.81E-01 | 5.41E-03 | 41.3 | 1.44E+00 |
| 6 | 1 | 1294.10 | 32 | 22 | 5.99 | 2589.33 | 5.62E-01 | 3.62E-03 | 35.5 | 1.97E+00 |

Flag: "*" = Peak area was modified by background subtraction

Nuclide Line Activity Report

Flag: "*" = Keyline

Summary of Nuclide Activity
Sample ID : 07L28821-3

Page : 2
Acquisition date : 8-JUN-2006 12:14:05

| | | |
|---|---|--------|
| Total number of lines in spectrum | 6 | |
| Number of unidentified lines | 5 | |
| Number of lines tentatively identified by NID | 1 | 16.67% |

**** There are no nuclides meeting summary criteria ****

Flags: "K" = Keyline not found
"E" = Manually edited

"M" = Manually accepted
"A" = Nuclide specific abn. limit

Unidentified Energy Lines
Sample ID : 07L28821-3

Page : 3
Acquisition date : 8-JUN-2006 12:14:05

| It | Energy | Area | Bkgnd | FWHM | Channel | Left | Pw | Cts/Sec | %Err | %Eff | Flags |
|----|---------|------|-------|------|---------|------|----|----------|------|----------|-------|
| 1 | 140.25 | 97 | 247 | 1.58 | 281.18 | 276 | 10 | 1.12E-02 | 66.6 | 2.09E+00 | |
| 1 | 241.70 | 54 | 136 | 1.43 | 484.24 | 474 | 16 | 6.20E-03 | 82.8 | 1.80E+00 | T |
| 1 | 296.19 | 83 | 230 | 7.36 | 593.27 | 586 | 17 | 9.48E-03 | 86.4 | 1.60E+00 | |
| 1 | 596.78 | 82 | 86 | 0.88 | 1194.73 | 1188 | 13 | 9.43E-03 | 49.1 | 9.95E-01 | |
| 1 | 609.22 | 47 | 64 | 1.65 | 1219.61 | 1215 | 12 | 5.41E-03 | 82.6 | 9.81E-01 | |
| 1 | 1294.10 | 32 | 22 | 5.99 | 2589.33 | 2583 | 15 | 3.62E-03 | 71.1 | 5.62E-01 | |

Flags: "T" = Tentatively associated

Summary of Nuclide Activity

Total number of lines in spectrum 6
Number of unidentified lines 5
Number of lines tentatively identified by NID 1 16.67%
**** There are no nuclides meeting summary criteria ****

Flags: "K" = Keyline not found "M" = Manually accepted
"E" = Manually edited "A" = Nuclide specific abn. limit

Interference Report

No interference correction performed

Combined Activity-MDA Report

---- Non-Identified Nuclides ----

| Nuclide | Key-Line Activity (pCi/L) | K.L. Ided | Act error | MDA (pCi/L) | MDA error | Act/MDA |
|---------|---------------------------------|--------------|-----------|---------------------|-----------|---------|
| BE-7 | 1.357E+01 | | 2.907E+01 | 4.859E+01 | 0.000E+00 | 0.279 |
| NA-24 | -1.245E-03 | | 3.392E-02 | Half-Life too short | | |
| K-40 | 4.904E+01 | | 4.267E+01 | 8.281E+01 | 0.000E+00 | 0.592 |
| CR-51 | 1.373E+00 | | 2.993E+01 | 4.994E+01 | 0.000E+00 | 0.028 |
| MN-54 | 3.298E-01 | | 3.045E+00 | 5.071E+00 | 0.000E+00 | 0.065 |
| CO-57 | 2.136E+00 | | 3.125E+00 | 5.225E+00 | 0.000E+00 | 0.409 |
| CO-58 | -1.966E+00 | | 3.172E+00 | 5.005E+00 | 0.000E+00 | -0.393 |
| FE-59 | 4.136E+00 | | 6.211E+00 | 1.087E+01 | 0.000E+00 | 0.380 |
| CO-60 | -3.309E+00 | | 3.030E+00 | 4.323E+00 | 0.000E+00 | -0.765 |
| ZN-65 | 3.563E+00 | | 6.492E+00 | 1.123E+01 | 0.000E+00 | 0.317 |
| SE-75 | -1.033E+00 | | 4.172E+00 | 6.736E+00 | 0.000E+00 | -0.153 |
| SR-85 | 1.929E+01 | | 3.927E+00 | 7.785E+00 | 0.000E+00 | 2.478 |
| Y-88 | -2.251E+00 | | 3.382E+00 | 5.127E+00 | 0.000E+00 | -0.439 |
| NB-94 | 4.276E-02 | | 2.900E+00 | 4.738E+00 | 0.000E+00 | 0.009 |
| NB-95 | 2.844E+00 | | 3.274E+00 | 5.754E+00 | 0.000E+00 | 0.494 |
| ZR-95 | -1.314E+00 | | 5.813E+00 | 9.278E+00 | 0.000E+00 | -0.142 |
| MO-99 | 9.501E+00 | | 2.210E+02 | 3.606E+02 | 0.000E+00 | 0.026 |
| RU-103 | 6.266E-01 | | 3.759E+00 | 6.163E+00 | 0.000E+00 | 0.102 |
| RU-106 | -3.601E+01 | | 3.219E+01 | 4.764E+01 | 0.000E+00 | -0.756 |
| AG-110m | 8.186E-01 | | 3.123E+00 | 5.207E+00 | 0.000E+00 | 0.157 |
| SN-113 | 5.835E-01 | | 4.023E+00 | 6.677E+00 | 0.000E+00 | 0.087 |
| SB-124 | -3.400E+00 | | 8.794E+00 | 5.624E+00 | 0.000E+00 | -0.604 |

| | | | | | |
|---------|------------|-----------|-----------|-----------|--------|
| SB-125 | 4.873E+00 | 8.763E+00 | 1.480E+01 | 0.000E+00 | 0.329 |
| TE-129M | -3.117E+01 | 4.130E+01 | 6.442E+01 | 0.000E+00 | -0.484 |
| I-131 | -2.642E-01 | 6.518E+00 | 1.076E+01 | 0.000E+00 | -0.025 |
| BA-133 | 6.393E+00 | 4.485E+00 | 7.884E+00 | 0.000E+00 | 0.811 |
| CS-134 | 1.230E+01 | 5.489E+00 | 6.095E+00 | 0.000E+00 | 2.018 |
| CS-136 | 4.193E-01 | 4.603E+00 | 7.669E+00 | 0.000E+00 | 0.055 |
| CS-137 | -1.350E+00 | 3.348E+00 | 5.333E+00 | 0.000E+00 | -0.253 |
| CE-139 | 3.042E+00 | 3.083E+00 | 5.312E+00 | 0.000E+00 | 0.573 |
| BA-140 | -4.788E+00 | 1.599E+01 | 2.603E+01 | 0.000E+00 | -0.184 |
| LA-140 | -1.246E+00 | 5.529E+00 | 8.854E+00 | 0.000E+00 | -0.141 |
| CE-141 | 5.071E-01 | 6.858E+00 | 9.497E+00 | 0.000E+00 | 0.053 |
| CE-144 | -2.019E+00 | 2.787E+01 | 3.847E+01 | 0.000E+00 | -0.052 |
| EU-152 | -2.092E+01 | 1.027E+01 | 1.548E+01 | 0.000E+00 | -1.352 |
| EU-154 | 2.687E+00 | 6.468E+00 | 1.072E+01 | 0.000E+00 | 0.251 |
| RA-226 | 1.110E+02 | 7.866E+01 | 1.378E+02 | 0.000E+00 | 0.805 |
| AC-228 | 5.038E+00 | 1.192E+01 | 2.032E+01 | 0.000E+00 | 0.248 |
| TH-228 | 4.236E+00 | 6.790E+00 | 1.019E+01 | 0.000E+00 | 0.416 |
| TH-232 | 5.023E+00 | 1.188E+01 | 2.026E+01 | 0.000E+00 | 0.248 |
| U-235 | 1.740E+01 | 2.655E+01 | 3.794E+01 | 0.000E+00 | 0.459 |
| U-238 | -5.083E+01 | 3.610E+02 | 5.823E+02 | 0.000E+00 | -0.087 |
| AM-241 | -3.956E+01 | 3.010E+01 | 4.614E+01 | 0.000E+00 | -0.858 |

A,07L28821-3 ,06/08/2006 18:25,05/30/2006 13:50, 3.528E+00,WG L28821-3 DR
 B,07L28821-3 ,LIBD ,06/07/2006 09:32,0735L090904

| | | | | | |
|-----------|-------|-------------|------------|-------------|--------|
| C,BE-7 | ,NO , | 1.357E+01, | 2.907E+01, | 4.859E+01,, | 0.279 |
| C,K-40 | ,NO , | 4.904E+01, | 4.267E+01, | 8.281E+01,, | 0.592 |
| C,CR-51 | ,NO , | 1.373E+00, | 2.993E+01, | 4.994E+01,, | 0.028 |
| C,MN-54 | ,NO , | 3.298E-01, | 3.045E+00, | 5.071E+00,, | 0.065 |
| C,CO-57 | ,NO , | 2.136E+00, | 3.125E+00, | 5.225E+00,, | 0.409 |
| C,CO-58 | ,NO , | -1.966E+00, | 3.172E+00, | 5.005E+00,, | -0.393 |
| C,FE-59 | ,NO , | 4.136E+00, | 6.211E+00, | 1.087E+01,, | 0.380 |
| C,CO-60 | ,NO , | -3.309E+00, | 3.030E+00, | 4.323E+00,, | -0.765 |
| C,ZN-65 | ,NO , | 3.563E+00, | 6.492E+00, | 1.123E+01,, | 0.317 |
| C,SE-75 | ,NO , | -1.033E+00, | 4.172E+00, | 6.736E+00,, | -0.153 |
| C,SR-85 | ,NO , | 1.929E+01, | 3.927E+00, | 7.785E+00,, | 2.478 |
| C,Y-88 | ,NO , | -2.251E+00, | 3.382E+00, | 5.127E+00,, | -0.439 |
| C,NB-94 | ,NO , | 4.276E-02, | 2.900E+00, | 4.738E+00,, | 0.009 |
| C,NB-95 | ,NO , | 2.844E+00, | 3.274E+00, | 5.754E+00,, | 0.494 |
| C,ZR-95 | ,NO , | -1.314E+00, | 5.813E+00, | 9.278E+00,, | -0.142 |
| C,MO-99 | ,NO , | 9.501E+00, | 2.210E+02, | 3.606E+02,, | 0.026 |
| C,RU-103 | ,NO , | 6.266E-01, | 3.759E+00, | 6.163E+00,, | 0.102 |
| C,RU-106 | ,NO , | -3.601E+01, | 3.219E+01, | 4.764E+01,, | -0.756 |
| C,AG-110m | ,NO , | 8.186E-01, | 3.123E+00, | 5.207E+00,, | 0.157 |
| C,SN-113 | ,NO , | 5.835E-01, | 4.023E+00, | 6.677E+00,, | 0.087 |
| C,SB-124 | ,NO , | -3.400E+00, | 8.794E+00, | 5.624E+00,, | -0.604 |
| C,SB-125 | ,NO , | 4.873E+00, | 8.763E+00, | 1.480E+01,, | 0.329 |
| C,TE-129M | ,NO , | -3.117E+01, | 4.130E+01, | 6.442E+01,, | -0.484 |
| C,I-131 | ,NO , | -2.642E-01, | 6.518E+00, | 1.076E+01,, | -0.025 |
| C,BA-133 | ,NO , | 6.393E+00, | 4.485E+00, | 7.884E+00,, | 0.811 |
| C,CS-134 | ,NO , | 1.230E+01, | 5.489E+00, | 6.095E+00,, | 2.018 |
| C,CS-136 | ,NO , | 4.193E-01, | 4.603E+00, | 7.669E+00,, | 0.055 |
| C,CS-137 | ,NO , | -1.350E+00, | 3.348E+00, | 5.333E+00,, | -0.253 |
| C,CE-139 | ,NO , | 3.042E+00, | 3.083E+00, | 5.312E+00,, | 0.573 |
| C,BA-140 | ,NO , | -4.788E+00, | 1.599E+01, | 2.603E+01,, | -0.184 |
| C,LA-140 | ,NO , | -1.246E+00, | 5.529E+00, | 8.854E+00,, | -0.141 |
| C,CE-141 | ,NO , | 5.071E-01, | 6.858E+00, | 9.497E+00,, | 0.053 |
| C,CE-144 | ,NO , | -2.019E+00, | 2.787E+01, | 3.847E+01,, | -0.052 |
| C,EU-152 | ,NO , | -2.092E+01, | 1.027E+01, | 1.548E+01,, | -1.352 |
| C,EU-154 | ,NO , | 2.687E+00, | 6.468E+00, | 1.072E+01,, | 0.251 |
| C,RA-226 | ,NO , | 1.110E+02, | 7.866E+01, | 1.378E+02,, | 0.805 |
| C,AC-228 | ,NO , | 5.038E+00, | 1.192E+01, | 2.032E+01,, | 0.248 |
| C,TH-228 | ,NO , | 4.236E+00, | 6.790E+00, | 1.019E+01,, | 0.416 |
| C,TH-232 | ,NO , | 5.023E+00, | 1.188E+01, | 2.026E+01,, | 0.248 |
| C,U-235 | ,NO , | 1.740E+01, | 2.655E+01, | 3.794E+01,, | 0.459 |
| C,U-238 | ,NO , | -5.083E+01, | 3.610E+02, | 5.823E+02,, | -0.087 |
| C,AM-241 | ,NO , | -3.956E+01, | 3.010E+01, | 4.614E+01,, | -0.858 |

Sec. Review: Analyst: LIMS: ✓

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VAX/VMS Teledyne Brown Eng. Laboratory Gamma Report: 8-JUN-2006 17:56:31.58

TBE04 P-40312B HpGe ***** Aquisition Date/Time: 8-JUN-2006 14:48:24.56

LIMS No., Customer Name, Client ID: WG L28821-4 DRESDEN

| | | | |
|---------------|-----------------|---------------|-----------------------|
| Sample ID | : 04L28821-4 | Smple Date: | 30-MAY-2006 15:50:00. |
| Sample Type | : WG | Geometry | : 0435L090804 |
| Quantity | : 3.52240E+00 L | BKGFILE | : 04BG060306MT |
| Start Channel | : 90 | Energy Tol | : 1.00000 |
| End Channel | : 4090 | Real Time | : 0 03:07:59.53 |
| MDA Constant | : 0.00 | Live time | : 0 03:07:57.58 |
| | | Pk Srch Sens: | 5.00000 |
| | | Library Used: | LIBD |

| Pk | It | Energy | Area | Bkgnd | FWHM | Channel | %Eff | Cts/Sec | %Err | Fit |
|----|----|----------|------|-------|------|---------|----------|----------|-------|----------|
| 1 | 1 | 66.33* | 32 | 301 | 0.91 | 133.11 | 6.48E-01 | 2.87E-03 | 93.6 | 1.47E+00 |
| 2 | 1 | 139.82 | 89 | 351 | 1.34 | 280.07 | 1.82E+00 | 7.85E-03 | 42.6 | 7.77E-01 |
| 3 | 1 | 186.68 | 101 | 199 | 2.23 | 373.78 | 1.72E+00 | 8.95E-03 | 28.2 | 3.07E+00 |
| 4 | 1 | 198.35* | 44 | 186 | 1.46 | 397.12 | 1.68E+00 | 3.91E-03 | 62.9 | 2.48E+00 |
| 5 | 1 | 238.54* | 6 | 170 | 1.10 | 477.50 | 1.52E+00 | 5.10E-04 | 426.8 | 6.56E-01 |
| 6 | 1 | 294.67 | 76 | 136 | 2.21 | 589.73 | 1.32E+00 | 6.70E-03 | 31.1 | 3.77E+00 |
| 7 | 1 | 352.03* | 15 | 167 | 1.55 | 704.42 | 1.17E+00 | 1.32E-03 | 187.6 | 2.03E+00 |
| 8 | 1 | 582.95* | 6 | 65 | 1.85 | 1166.14 | 7.99E-01 | 5.27E-04 | 283.0 | 2.91E+00 |
| 9 | 1 | 596.13 | 51 | 82 | 1.62 | 1192.50 | 7.86E-01 | 4.52E-03 | 36.9 | 1.54E+00 |
| 10 | 1 | 608.90* | 39 | 70 | 2.19 | 1218.03 | 7.73E-01 | 3.44E-03 | 54.0 | 1.06E+00 |
| 11 | 1 | 968.66 | 29 | 33 | 2.39 | 1937.25 | 5.39E-01 | 2.55E-03 | 50.1 | 1.41E+00 |
| 12 | 1 | 1161.19 | 41 | 12 | 6.30 | 2322.12 | 4.67E-01 | 3.60E-03 | 20.7 | 3.30E+00 |
| 13 | 1 | 1460.98* | 42 | 13 | 3.33 | 2921.32 | 3.92E-01 | 3.72E-03 | 33.8 | 2.10E+00 |

Flag: "*" = Peak area was modified by background subtraction

Nuclide Line Activity Report

Nuclide Type: natural

| Nuclide | Energy | Area | %Abn | %Eff | Uncorrected pCi/L | Decay Corr pCi/L | 2-Sigma %Error |
|---------|---------|-------|--------|-----------|----------------------|---------------------|-------------------|
| K-40 | 1460.81 | 42 | 10.67* | 3.920E-01 | 6.822E+01 | 6.822E+01 | 67.56 |
| RA-226 | 186.21 | 101 | 3.28* | 1.723E+00 | 1.214E+02 | 1.214E+02 | 56.36 |
| TH-228 | 238.63 | 6 | 44.60* | 1.521E+00 | 5.765E-01 | 5.817E-01 | 853.62 |
| | 240.98 | ----- | 3.95 | 1.511E+00 | ----- | Line Not Found | ----- |
| TH-232 | 583.14 | 6 | 30.25 | 7.995E-01 | 1.674E+00 | 1.674E+00 | 566.06 |
| | 911.07 | ----- | 27.70* | 5.657E-01 | ----- | Line Not Found | ----- |
| | 969.11 | 29 | 16.60 | 5.391E-01 | 2.184E+01 | 2.184E+01 | 100.29 |
| U-235 | 143.76 | ----- | 10.50* | 1.822E+00 | ----- | Line Not Found | ----- |
| | 163.35 | ----- | 4.70 | 1.796E+00 | ----- | Line Not Found | ----- |
| | 185.71 | 101 | 54.00 | 1.723E+00 | 7.376E+00 | 7.376E+00 | 56.36 |
| | 205.31 | ----- | 4.70 | 1.652E+00 | ----- | Line Not Found | ----- |

Flag: "*" = Keyline

Summary of Nuclide Activity
Sample ID : 04L28821-4

Acquisition date : 8-JUN-2006 14:48:24

| | | |
|---|----|--------|
| Total number of lines in spectrum | 13 | |
| Number of unidentified lines | 8 | |
| Number of lines tentatively identified by NID | 5 | 38.46% |

Nuclide Type : natural

| Nuclide | Hlife | Decay | Uncorrected pCi/L | Decay Corr pCi/L | Decay Corr 2-Sigma Error | 2-Sigma %Error | Flags |
|------------------|-----------|-------|----------------------|---------------------|-----------------------------|-------------------|-------|
| K-40 | 1.28E+09Y | 1.00 | 6.822E+01 | 6.822E+01 | 4.609E+01 | 67.56 | |
| RA-226 | 1600.00Y | 1.00 | 1.214E+02 | 1.214E+02 | 0.684E+02 | 56.36 | |
| TH-228 | 1.91Y | 1.01 | 5.765E-01 | 5.817E-01 | 49.65E-01 | 853.62 | |
| TH-232 | 1.41E+10Y | 1.00 | 1.674E+00 | 1.674E+00 | 9.473E+00 | 566.06 | K |
| U-235 | 7.04E+08Y | 1.00 | 7.376E+00 | 7.376E+00 | 4.157E+00 | 56.36 | K |
| Total Activity : | | | 1.993E+02 | 1.993E+02 | | | |

Grand Total Activity : 1.993E+02 1.993E+02

Flags: "K" = Keyline not found
"E" = Manually edited

"M" = Manually accepted
"A" = Nuclide specific abn. limit

Unidentified Energy Lines
Sample ID : 04L28821-4

Acquisition date : 8-JUN-2006 14:48:24

| It | Energy | Area | Bkgnd | FWHM | Channel | Left | Pw | Cts/Sec | %Err | %Eff | Flags |
|----|---------|------|-------|------|---------|------|----|----------|------|----------|-------|
| 1 | 66.33 | 32 | 301 | 0.91 | 133.11 | 130 | 7 | 2.87E-03 | **** | 6.48E-01 | |
| 1 | 139.82 | 89 | 351 | 1.34 | 280.07 | 275 | 11 | 7.85E-03 | 85.2 | 1.82E+00 | |
| 1 | 198.35 | 44 | 186 | 1.46 | 397.12 | 394 | 8 | 3.91E-03 | **** | 1.68E+00 | |
| 1 | 294.67 | 76 | 136 | 2.21 | 589.73 | 585 | 10 | 6.70E-03 | 62.2 | 1.32E+00 | |
| 1 | 352.03 | 15 | 167 | 1.55 | 704.42 | 700 | 12 | 1.32E-03 | **** | 1.17E+00 | |
| 1 | 596.13 | 51 | 82 | 1.62 | 1192.50 | 1186 | 11 | 4.52E-03 | 73.9 | 7.86E-01 | |
| 1 | 608.90 | 39 | 70 | 2.19 | 1218.03 | 1213 | 14 | 3.44E-03 | **** | 7.73E-01 | |
| 1 | 1161.19 | 41 | 12 | 6.30 | 2322.12 | 2315 | 11 | 3.60E-03 | 41.4 | 4.67E-01 | |

Flags: "T" = Tentatively associated

Summary of Nuclide Activity

| | | |
|---|----|--------|
| Total number of lines in spectrum | 13 | |
| Number of unidentified lines | 8 | |
| Number of lines tentatively identified by NID | 5 | 38.46% |

Nuclide Type : natural

| Nuclide | Hlife | Decay | Wtd Mean Uncorrected pCi/L | Wtd Mean Decay Corr pCi/L | Decay Corr 2-Sigma Error | 2-Sigma %Error | Flags |
|------------------|-----------|-------|----------------------------------|---------------------------------|-----------------------------|-------------------|-------|
| K-40 | 1.28E+09Y | 1.00 | 6.822E+01 | 6.822E+01 | 4.609E+01 | 67.56 | |
| RA-226 | 1600.00Y | 1.00 | 1.214E+02 | 1.214E+02 | 0.684E+02 | 56.36 | |
| TH-228 | 1.91Y | 1.01 | 5.765E-01 | 5.817E-01 | 49.65E-01 | 853.62 | |
| TH-232 | 1.41E+10Y | 1.00 | 4.851E+00 | 4.851E+00 | 8.695E+00 | 179.22 | |
| Total Activity : | | | 1.951E+02 | 1.951E+02 | | | |

Grand Total Activity : 1.951E+02 1.951E+02

Flags: "K" = Keyline not found "M" = Manually accepted
"E" = Manually edited "A" = Nuclide specific abn. limit

Interference Report

No interference correction performed

Combined Activity-MDA Report

---- Identified Nuclides ----

| Nuclide | Activity (pCi/L) | Act error | MDA (pCi/L) | MDA error | Act/MDA |
|---------|---------------------|-----------|----------------|-----------|---------|
| K-40 | 6.822E+01 | 4.609E+01 | 4.123E+01 | 0.000E+00 | 1.655 |
| RA-226 | 1.214E+02 | 6.844E+01 | 1.128E+02 | 0.000E+00 | 1.076 |
| TH-228 | 5.817E-01 | 4.965E+00 | 8.392E+00 | 0.000E+00 | 0.069 |
| TH-232 | 4.851E+00 | 8.695E+00 | 2.017E+01 | 0.000E+00 | 0.241 |

---- Non-Identified Nuclides ----

Key-Line

| Nuclide | Activity (pCi/L) | K.L. Ided | Act error | MDA (pCi/L) | MDA error | Act/MDA |
|---------|---------------------|--------------|-----------|---------------------|-----------|---------|
| BE-7 | -1.300E+01 | | 2.537E+01 | 4.061E+01 | 0.000E+00 | -0.320 |
| NA-24 | -2.937E-02 | | 3.593E-02 | Half-Life too short | | |
| CR-51 | -1.858E+01 | | 3.126E+01 | 5.008E+01 | 0.000E+00 | -0.371 |
| MN-54 | 1.907E+00 | | 3.020E+00 | 5.165E+00 | 0.000E+00 | 0.369 |
| CO-57 | -5.426E-01 | | 2.683E+00 | 4.463E+00 | 0.000E+00 | -0.122 |
| CO-58 | -1.154E+00 | | 3.128E+00 | 4.964E+00 | 0.000E+00 | -0.232 |
| FE-59 | 4.446E+00 | | 6.497E+00 | 1.126E+01 | 0.000E+00 | 0.395 |
| CO-60 | -4.097E-01 | | 3.579E+00 | 5.774E+00 | 0.000E+00 | -0.071 |
| ZN-65 | 5.502E+00 | | 6.635E+00 | 1.161E+01 | 0.000E+00 | 0.474 |
| SE-75 | -4.043E+00 | | 4.053E+00 | 6.474E+00 | 0.000E+00 | -0.625 |
| SR-85 | 1.755E+01 | | 3.940E+00 | 7.633E+00 | 0.000E+00 | 2.299 |
| Y-88 | 1.139E+00 | | 3.612E+00 | 6.131E+00 | 0.000E+00 | 0.186 |
| NB-94 | 6.983E-01 | | 2.930E+00 | 4.916E+00 | 0.000E+00 | 0.142 |
| NB-95 | 1.072E+00 | | 3.185E+00 | 5.357E+00 | 0.000E+00 | 0.200 |
| ZR-95 | -4.995E+00 | | 5.570E+00 | 8.520E+00 | 0.000E+00 | -0.586 |
| MO-99 | -7.060E+01 | | 2.100E+02 | 3.370E+02 | 0.000E+00 | -0.209 |
| RU-103 | 1.391E+00 | | 3.378E+00 | 5.701E+00 | 0.000E+00 | 0.244 |
| RU-106 | -9.418E+00 | | 2.861E+01 | 4.388E+01 | 0.000E+00 | -0.215 |
| AG-110m | -4.334E-01 | | 3.015E+00 | 4.959E+00 | 0.000E+00 | -0.087 |
| SN-113 | -1.131E+00 | | 3.911E+00 | 6.255E+00 | 0.000E+00 | -0.181 |
| SB-124 | 8.845E+00 | | 4.751E+00 | 5.372E+00 | 0.000E+00 | 1.647 |
| SB-125 | -2.735E+00 | | 7.875E+00 | 1.285E+01 | 0.000E+00 | -0.213 |
| TE-129M | 1.341E+00 | | 3.818E+01 | 6.339E+01 | 0.000E+00 | 0.021 |
| I-131 | -2.818E+00 | | 6.318E+00 | 1.007E+01 | 0.000E+00 | -0.280 |
| BA-133 | 5.897E+00 | | 4.475E+00 | 6.820E+00 | 0.000E+00 | 0.865 |
| CS-134 | 6.209E+00 | | 4.728E+00 | 5.588E+00 | 0.000E+00 | 1.111 |
| CS-136 | -1.900E+00 | | 4.447E+00 | 7.006E+00 | 0.000E+00 | -0.271 |
| CS-137 | 7.714E-01 | | 3.189E+00 | 5.377E+00 | 0.000E+00 | 0.143 |
| CE-139 | -2.828E+00 | | 2.934E+00 | 4.685E+00 | 0.000E+00 | -0.604 |
| BA-140 | -2.348E+00 | | 1.627E+01 | 2.643E+01 | 0.000E+00 | -0.089 |
| LA-140 | 4.219E+00 | | 5.108E+00 | 9.256E+00 | 0.000E+00 | 0.456 |
| CE-141 | -2.771E-02 | | 6.410E+00 | 9.103E+00 | 0.000E+00 | -0.003 |
| CE-144 | 1.344E+01 | | 2.465E+01 | 3.609E+01 | 0.000E+00 | 0.372 |
| EU-152 | -1.227E+01 | | 1.093E+01 | 1.451E+01 | 0.000E+00 | -0.846 |
| EU-154 | -5.565E-01 | | 5.603E+00 | 9.348E+00 | 0.000E+00 | -0.060 |
| AC-228 | -3.652E+00 | | 1.247E+01 | 2.023E+01 | 0.000E+00 | -0.181 |
| U-235 | 6.627E+00 | | 2.434E+01 | 3.506E+01 | 0.000E+00 | 0.189 |
| U-238 | 3.875E+02 | | 3.282E+02 | 5.927E+02 | 0.000E+00 | 0.654 |
| AM-241 | -3.420E+01 | | 2.626E+01 | 3.941E+01 | 0.000E+00 | -0.868 |

A,04L28821-4 ,06/08/2006 17:56,05/30/2006 15:50, 3.522E+00,WG L28821-4 DR
 B,04L28821-4 ,LIBD ,06/02/2006 09:04,0435L090804

| | | | | | |
|-----------|-------|-------------|------------|-------------|--------|
| C,K-40 | ,YES, | 6.822E+01, | 4.609E+01, | 4.123E+01,, | 1.655 |
| C,RA-226 | ,YES, | 1.214E+02, | 6.844E+01, | 1.128E+02,, | 1.076 |
| C,TH-228 | ,YES, | 5.817E-01, | 4.965E+00, | 8.392E+00,, | 0.069 |
| C,TH-232 | ,YES, | 4.851E+00, | 8.695E+00, | 2.017E+01,, | 0.241 |
| C,BE-7 | ,NO , | -1.300E+01, | 2.537E+01, | 4.061E+01,, | -0.320 |
| C,CR-51 | ,NO , | -1.858E+01, | 3.126E+01, | 5.008E+01,, | -0.371 |
| C,MN-54 | ,NO , | 1.907E+00, | 3.020E+00, | 5.165E+00,, | 0.369 |
| C,CO-57 | ,NO , | -5.426E-01, | 2.683E+00, | 4.463E+00,, | -0.122 |
| C,CO-58 | ,NO , | -1.154E+00, | 3.128E+00, | 4.964E+00,, | -0.232 |
| C,FE-59 | ,NO , | 4.446E+00, | 6.497E+00, | 1.126E+01,, | 0.395 |
| C,CO-60 | ,NO , | -4.097E-01, | 3.579E+00, | 5.774E+00,, | -0.071 |
| C,ZN-65 | ,NO , | 5.502E+00, | 6.635E+00, | 1.161E+01,, | 0.474 |
| C,SE-75 | ,NO , | -4.043E+00, | 4.053E+00, | 6.474E+00,, | -0.625 |
| C,SR-85 | ,NO , | 1.755E+01, | 3.940E+00, | 7.633E+00,, | 2.299 |
| C,Y-88 | ,NO , | 1.139E+00, | 3.612E+00, | 6.131E+00,, | 0.186 |
| C,NB-94 | ,NO , | 6.983E-01, | 2.930E+00, | 4.916E+00,, | 0.142 |
| C,NB-95 | ,NO , | 1.072E+00, | 3.185E+00, | 5.357E+00,, | 0.200 |
| C,ZR-95 | ,NO , | -4.995E+00, | 5.570E+00, | 8.520E+00,, | -0.586 |
| C,MO-99 | ,NO , | -7.060E+01, | 2.100E+02, | 3.370E+02,, | -0.209 |
| C,RU-103 | ,NO , | 1.391E+00, | 3.378E+00, | 5.701E+00,, | 0.244 |
| C,RU-106 | ,NO , | -9.418E+00, | 2.861E+01, | 4.388E+01,, | -0.215 |
| C,AG-110m | ,NO , | -4.334E-01, | 3.015E+00, | 4.959E+00,, | -0.087 |
| C,SN-113 | ,NO , | -1.131E+00, | 3.911E+00, | 6.255E+00,, | -0.181 |
| C,SB-124 | ,NO , | 8.845E+00, | 4.751E+00, | 5.372E+00,, | 1.647 |
| C,SB-125 | ,NO , | -2.735E+00, | 7.875E+00, | 1.285E+01,, | -0.213 |
| C,TE-129M | ,NO , | 1.341E+00, | 3.818E+01, | 6.339E+01,, | 0.021 |
| C,I-131 | ,NO , | -2.818E+00, | 6.318E+00, | 1.007E+01,, | -0.280 |
| C,BA-133 | ,NO , | 5.897E+00, | 4.475E+00, | 6.820E+00,, | 0.865 |
| C,CS-134 | ,NO , | 6.209E+00, | 4.728E+00, | 5.588E+00,, | 1.111 |
| C,CS-136 | ,NO , | -1.900E+00, | 4.447E+00, | 7.006E+00,, | -0.271 |
| C,CS-137 | ,NO , | 7.714E-01, | 3.189E+00, | 5.377E+00,, | 0.143 |
| C,CE-139 | ,NO , | -2.828E+00, | 2.934E+00, | 4.685E+00,, | -0.604 |
| C,BA-140 | ,NO , | -2.348E+00, | 1.627E+01, | 2.643E+01,, | -0.089 |
| C,LA-140 | ,NO , | 4.219E+00, | 5.108E+00, | 9.256E+00,, | 0.456 |
| C,CE-141 | ,NO , | -2.771E-02, | 6.410E+00, | 9.103E+00,, | -0.003 |
| C,CE-144 | ,NO , | 1.344E+01, | 2.465E+01, | 3.609E+01,, | 0.372 |
| C,EU-152 | ,NO , | -1.227E+01, | 1.093E+01, | 1.451E+01,, | -0.846 |
| C,EU-154 | ,NO , | -5.565E-01, | 5.603E+00, | 9.348E+00,, | -0.060 |
| C,AC-228 | ,NO , | -3.652E+00, | 1.247E+01, | 2.023E+01,, | -0.181 |
| C,U-235 | ,NO , | 6.627E+00, | 2.434E+01, | 3.506E+01,, | 0.189 |
| C,U-238 | ,NO , | 3.875E+02, | 3.282E+02, | 5.927E+02,, | 0.654 |
| C,AM-241 | ,NO , | -3.420E+01, | 2.626E+01, | 3.941E+01,, | -0.868 |

Sec. Review: Analyst: LIMS: ✓

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VAX/VMS Teledyne Brown Eng. Laboratory Gamma Report: 8-JUN-2006 17:52:03.07

TBE07 P-10768B HpGe ***** Aquisition Date/Time: 8-JUN-2006 14:48:32.10

LIMS No., Customer Name, Client ID: WG L28821-5 DRESDEN

| | | | |
|---------------|-----------------|---------------|-----------------------|
| Sample ID | : 07L28821-5 | Smple Date: | 25-MAY-2006 10:15:00. |
| Sample Type | : WG | Geometry | : 0735L090904 |
| Quantity | : 3.63310E+00 L | BKGFILE | : 07BG060306MT |
| Start Channel | : 40 | Energy Tol | : 1.00000 |
| End Channel | : 4090 | Pk Srch Sens: | 5.00000 |
| MDA Constant | : 0.00 | Library Used: | LIBD |
| | | Real Time | : 0 03:03:27.08 |
| | | Live time | : 0 03:03:24.89 |

| Pk | It | Energy | Area | Bkgnd | FWHM | Channel | %Eff | Cts/Sec | %Err | Fit |
|----|----|---------|------|-------|------|---------|----------|----------|------|----------|
| 1 | 1 | 66.39* | 84 | 314 | 1.52 | 133.36 | 7.27E-01 | 7.61E-03 | 40.0 | 6.44E-01 |
| 2 | 1 | 139.98* | 85 | 333 | 1.12 | 280.65 | 2.09E+00 | 7.69E-03 | 43.7 | 8.42E-01 |
| 3 | 1 | 596.20 | 70 | 85 | 2.54 | 1193.56 | 9.96E-01 | 6.35E-03 | 29.7 | 9.95E-01 |
| 4 | 1 | 609.14* | 43 | 92 | 1.59 | 1219.47 | 9.81E-01 | 3.88E-03 | 52.8 | 6.61E-01 |

Flag: "*" = Peak area was modified by background subtraction

Nuclide Line Activity Report

Flag: "*" = Keyline

Summary of Nuclide Activity
Sample ID : 07L28821-5

Acquisition date : 8-JUN-2006 14:48:32

| | | |
|---|---|-------|
| Total number of lines in spectrum | 4 | |
| Number of unidentified lines | 4 | |
| Number of lines tentatively identified by NID | 0 | 0.00% |

**** There are no nuclides meeting summary criteria ****

Flags: "K" = Keyline not found
"E" = Manually edited

"M" = Manually accepted
"A" = Nuclide specific abn. limit

Unidentified Energy Lines
Sample ID : 07L28821-5

Acquisition date : 8-JUN-2006 14:48:32

| It | Energy | Area | Bkgnd | FWHM | Channel | Left | Pw | Cts/Sec | %Err | %Eff | Flags |
|----|--------|------|-------|------|---------|------|----|----------|------|----------|-------|
| 1 | 66.39 | 84 | 314 | 1.52 | 133.36 | 130 | 8 | 7.61E-03 | 79.9 | 7.27E-01 | |
| 1 | 139.98 | 85 | 333 | 1.12 | 280.65 | 275 | 10 | 7.69E-03 | 87.4 | 2.09E+00 | |
| 1 | 596.20 | 70 | 85 | 2.54 | 1193.56 | 1188 | 13 | 6.35E-03 | 59.4 | 9.96E-01 | |
| 1 | 609.14 | 43 | 92 | 1.59 | 1219.47 | 1216 | 13 | 3.88E-03 | **** | 9.81E-01 | |

Flags: "T" = Tentatively associated

Summary of Nuclide Activity

| | | |
|---|---|-------|
| Total number of lines in spectrum | 4 | |
| Number of unidentified lines | 4 | |
| Number of lines tentatively identified by NID | 0 | 0.00% |

**** There are no nuclides meeting summary criteria ****

Flags: "K" = Keyline not found "M" = Manually accepted
 "E" = Manually edited "A" = Nuclide specific abn. limit

Interference Report

No interference correction performed

Combined Activity-MDA Report

---- Non-Identified Nuclides ----

| Nuclide | Key-Line Activity (pCi/L) | K.L. Ided | Act error | MDA (pCi/L) | MDA error | Act/MDA |
|---------|---------------------------------|--------------|-----------|---------------------|-----------|---------|
| BE-7 | 2.612E+00 | | 2.609E+01 | 4.271E+01 | 0.000E+00 | 0.061 |
| NA-24 | -2.207E+01 | | 1.037E+01 | Half-Life too short | | |
| K-40 | 3.620E+01 | | 3.845E+01 | 7.197E+01 | 0.000E+00 | 0.503 |
| CR-51 | -2.608E+01 | | 3.062E+01 | 4.922E+01 | 0.000E+00 | -0.530 |
| MN-54 | -2.517E-01 | | 2.574E+00 | 4.225E+00 | 0.000E+00 | -0.060 |
| CO-57 | 8.776E-01 | | 2.679E+00 | 4.424E+00 | 0.000E+00 | 0.198 |
| CO-58 | 1.535E-01 | | 2.796E+00 | 4.647E+00 | 0.000E+00 | 0.033 |
| FE-59 | 4.725E+00 | | 6.014E+00 | 1.054E+01 | 0.000E+00 | 0.448 |
| CO-60 | 1.091E+00 | | 2.855E+00 | 4.819E+00 | 0.000E+00 | 0.226 |
| ZN-65 | 6.318E+00 | | 5.778E+00 | 1.031E+01 | 0.000E+00 | 0.613 |
| SE-75 | -1.888E+00 | | 3.865E+00 | 6.192E+00 | 0.000E+00 | -0.305 |
| SR-85 | 1.970E+01 | | 3.576E+00 | 7.093E+00 | 0.000E+00 | 2.778 |
| Y-88 | -4.436E-01 | | 2.934E+00 | 4.775E+00 | 0.000E+00 | -0.093 |
| NB-94 | 9.322E-01 | | 2.731E+00 | 4.544E+00 | 0.000E+00 | 0.205 |
| NB-95 | -6.230E-01 | | 2.688E+00 | 4.396E+00 | 0.000E+00 | -0.142 |
| ZR-95 | 1.024E-01 | | 5.026E+00 | 8.173E+00 | 0.000E+00 | 0.013 |
| MO-99 | 9.184E+01 | | 7.102E+02 | 1.165E+03 | 0.000E+00 | 0.079 |
| RU-103 | -1.301E+00 | | 3.419E+00 | 5.441E+00 | 0.000E+00 | -0.239 |
| RU-106 | -1.838E+00 | | 2.508E+01 | 4.108E+01 | 0.000E+00 | -0.045 |
| AG-110m | 1.662E+00 | | 2.678E+00 | 4.551E+00 | 0.000E+00 | 0.365 |
| SN-113 | -1.012E+00 | | 3.736E+00 | 6.077E+00 | 0.000E+00 | -0.166 |
| SB-124 | 5.158E+00 | | 5.565E+00 | 4.869E+00 | 0.000E+00 | 1.060 |
| SB-125 | 2.740E+00 | | 7.813E+00 | 1.302E+01 | 0.000E+00 | 0.211 |
| TE-129M | 1.473E+01 | | 3.885E+01 | 6.465E+01 | 0.000E+00 | 0.228 |

| | | | | | |
|--------|------------|-----------|-----------|-----------|--------|
| I-131 | 1.088E+00 | 8.685E+00 | 1.444E+01 | 0.000E+00 | 0.075 |
| BA-133 | 5.219E+00 | 3.673E+00 | 6.434E+00 | 0.000E+00 | 0.811 |
| CS-134 | 9.473E+00 | 4.734E+00 | 4.934E+00 | 0.000E+00 | 1.920 |
| CS-136 | -3.303E+00 | 5.152E+00 | 8.140E+00 | 0.000E+00 | -0.406 |
| CS-137 | 5.839E-01 | 2.880E+00 | 4.777E+00 | 0.000E+00 | 0.122 |
| CE-139 | -3.138E-02 | 2.636E+00 | 4.396E+00 | 0.000E+00 | -0.007 |
| BA-140 | -2.196E+01 | 1.854E+01 | 2.863E+01 | 0.000E+00 | -0.767 |
| LA-140 | 1.976E+00 | 6.651E+00 | 1.123E+01 | 0.000E+00 | 0.176 |
| CE-141 | 3.474E+00 | 6.965E+00 | 9.832E+00 | 0.000E+00 | 0.353 |
| CE-144 | -6.202E+00 | 2.453E+01 | 3.358E+01 | 0.000E+00 | -0.185 |
| EU-152 | -1.343E+01 | 8.305E+00 | 1.283E+01 | 0.000E+00 | -1.046 |
| EU-154 | 2.582E+00 | 5.483E+00 | 9.090E+00 | 0.000E+00 | 0.284 |
| RA-226 | -5.825E+01 | 6.577E+01 | 1.068E+02 | 0.000E+00 | -0.545 |
| AC-228 | 6.651E-01 | 1.041E+01 | 1.709E+01 | 0.000E+00 | 0.039 |
| TH-228 | 1.579E+00 | 4.978E+00 | 8.340E+00 | 0.000E+00 | 0.189 |
| TH-232 | 6.620E-01 | 1.036E+01 | 1.701E+01 | 0.000E+00 | 0.039 |
| U-235 | 1.429E+01 | 2.407E+01 | 3.413E+01 | 0.000E+00 | 0.419 |
| U-238 | -2.001E+02 | 2.813E+02 | 4.323E+02 | 0.000E+00 | -0.463 |
| AM-241 | -4.068E+01 | 2.722E+01 | 3.793E+01 | 0.000E+00 | -1.072 |

A,07L28821-5 ,06/08/2006 17:52,05/25/2006 10:15, 3.633E+00,WG L28821-5 DR
 B,07L28821-5 ,LIBD ,06/07/2006 09:32,0735L090904

| | | | | | |
|-----------|-------|-------------|------------|-------------|--------|
| C,BE-7 | ,NO , | 2.612E+00, | 2.609E+01, | 4.271E+01,, | 0.061 |
| C,K-40 | ,NO , | 3.620E+01, | 3.845E+01, | 7.197E+01,, | 0.503 |
| C,CR-51 | ,NO , | -2.608E+01, | 3.062E+01, | 4.922E+01,, | -0.530 |
| C,MN-54 | ,NO , | -2.517E-01, | 2.574E+00, | 4.225E+00,, | -0.060 |
| C,CO-57 | ,NO , | 8.776E-01, | 2.679E+00, | 4.424E+00,, | 0.198 |
| C,CO-58 | ,NO , | 1.535E-01, | 2.796E+00, | 4.647E+00,, | 0.033 |
| C,FE-59 | ,NO , | 4.725E+00, | 6.014E+00, | 1.054E+01,, | 0.448 |
| C,CO-60 | ,NO , | 1.091E+00, | 2.855E+00, | 4.819E+00,, | 0.226 |
| C,ZN-65 | ,NO , | 6.318E+00, | 5.778E+00, | 1.031E+01,, | 0.613 |
| C,SE-75 | ,NO , | -1.888E+00, | 3.865E+00, | 6.192E+00,, | -0.305 |
| C,SR-85 | ,NO , | 1.970E+01, | 3.576E+00, | 7.093E+00,, | 2.778 |
| C,Y-88 | ,NO , | -4.436E-01, | 2.934E+00, | 4.775E+00,, | -0.093 |
| C,NB-94 | ,NO , | 9.322E-01, | 2.731E+00, | 4.544E+00,, | 0.205 |
| C,NB-95 | ,NO , | -6.230E-01, | 2.688E+00, | 4.396E+00,, | -0.142 |
| C,ZR-95 | ,NO , | 1.024E-01, | 5.026E+00, | 8.173E+00,, | 0.013 |
| C,MO-99 | ,NO , | 9.184E+01, | 7.102E+02, | 1.165E+03,, | 0.079 |
| C,RU-103 | ,NO , | -1.301E+00, | 3.419E+00, | 5.441E+00,, | -0.239 |
| C,RU-106 | ,NO , | -1.838E+00, | 2.508E+01, | 4.108E+01,, | -0.045 |
| C,AG-110m | ,NO , | 1.662E+00, | 2.678E+00, | 4.551E+00,, | 0.365 |
| C,SN-113 | ,NO , | -1.012E+00, | 3.736E+00, | 6.077E+00,, | -0.166 |
| C,SB-124 | ,NO , | 5.158E+00, | 5.565E+00, | 4.869E+00,, | 1.060 |
| C,SB-125 | ,NO , | 2.740E+00, | 7.813E+00, | 1.302E+01,, | 0.211 |
| C,TE-129M | ,NO , | 1.473E+01, | 3.885E+01, | 6.465E+01,, | 0.228 |
| C,I-131 | ,NO , | 1.088E+00, | 8.685E+00, | 1.444E+01,, | 0.075 |
| C,BA-133 | ,NO , | 5.219E+00, | 3.673E+00, | 6.434E+00,, | 0.811 |
| C,CS-134 | ,NO , | 9.473E+00, | 4.734E+00, | 4.934E+00,, | 1.920 |
| C,CS-136 | ,NO , | -3.303E+00, | 5.152E+00, | 8.140E+00,, | -0.406 |
| C,CS-137 | ,NO , | 5.839E-01, | 2.880E+00, | 4.777E+00,, | 0.122 |
| C,CE-139 | ,NO , | -3.138E-02, | 2.636E+00, | 4.396E+00,, | -0.007 |
| C,BA-140 | ,NO , | -2.196E+01, | 1.854E+01, | 2.863E+01,, | -0.767 |
| C,LA-140 | ,NO , | 1.976E+00, | 6.651E+00, | 1.123E+01,, | 0.176 |
| C,CE-141 | ,NO , | 3.474E+00, | 6.965E+00, | 9.832E+00,, | 0.353 |
| C,CE-144 | ,NO , | -6.202E+00, | 2.453E+01, | 3.358E+01,, | -0.185 |
| C,EU-152 | ,NO , | -1.343E+01, | 8.305E+00, | 1.283E+01,, | -1.046 |
| C,EU-154 | ,NO , | 2.582E+00, | 5.483E+00, | 9.090E+00,, | 0.284 |
| C,RA-226 | ,NO , | -5.825E+01, | 6.577E+01, | 1.068E+02,, | -0.545 |
| C,AC-228 | ,NO , | 6.651E-01, | 1.041E+01, | 1.709E+01,, | 0.039 |
| C,TH-228 | ,NO , | 1.579E+00, | 4.978E+00, | 8.340E+00,, | 0.189 |
| C,TH-232 | ,NO , | 6.620E-01, | 1.036E+01, | 1.701E+01,, | 0.039 |
| C,U-235 | ,NO , | 1.429E+01, | 2.407E+01, | 3.413E+01,, | 0.419 |
| C,U-238 | ,NO , | -2.001E+02, | 2.813E+02, | 4.323E+02,, | -0.463 |
| C,AM-241 | ,NO , | -4.068E+01, | 2.722E+01, | 3.793E+01,, | -1.072 |

Sec. Review: Analyst: LIMS: ✓

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VAX/VMS Teledyne Brown Eng. Laboratory Gamma Report: 8-JUN-2006 18:19:33.94

TBE10 12892256 HpGe ***** Aquisition Date/Time: 8-JUN-2006 14:48:38.19

LIMS No., Customer Name, Client ID: WG L28821-6 DRESDEN

| | | | |
|---------------|-----------------|---------------|-----------------------|
| Sample ID | : 10L28821-6 | Smple Date: | 25-MAY-2006 15:00:00. |
| Sample Type | : WG | Geometry | : 1035L091004 |
| Quantity | : 3.63120E+00 L | BKGFILE | : 10BG060306MT |
| Start Channel | : 80 | Energy Tol | : 1.00000 |
| End Channel | : 4090 | Pk Srch Sens: | 5.00000 |
| MDA Constant | : 0.00 | Library Used: | LIBD |
| | | Real Time | : 0 03:30:43.89 |
| | | Live time | : 0 03:30:41.63 |

| Pk | It | Energy | Area | Bkgnd | FWHM | Channel | %Eff | Cts/Sec | %Err | Fit |
|----|----|----------|------|-------|------|---------|----------|----------|-------|----------|
| 1 | 1 | 66.46* | 92 | 377 | 1.27 | 132.03 | 6.38E-01 | 7.26E-03 | 39.9 | 2.38E+00 |
| 2 | 1 | 92.77* | 7 | 423 | 1.42 | 184.67 | 1.30E+00 | 5.32E-04 | 601.2 | 7.24E-01 |
| 3 | 1 | 139.47 | 62 | 285 | 0.89 | 278.12 | 1.68E+00 | 4.93E-03 | 45.0 | 1.63E+00 |
| 4 | 1 | 596.21 | 73 | 53 | 1.45 | 1192.10 | 7.06E-01 | 5.80E-03 | 22.1 | 1.29E+00 |
| 5 | 1 | 609.50* | 42 | 58 | 1.67 | 1218.70 | 6.94E-01 | 3.29E-03 | 49.4 | 1.08E+00 |
| 6 | 1 | 911.09* | 13 | 37 | 2.56 | 1822.31 | 5.07E-01 | 1.05E-03 | 102.5 | 1.79E+00 |
| 7 | 1 | 1120.26* | 24 | 11 | 2.40 | 2241.01 | 4.33E-01 | 1.87E-03 | 41.3 | 7.92E-01 |
| 8 | 1 | 1461.19* | 27 | 21 | 2.89 | 2923.55 | 3.56E-01 | 2.12E-03 | 57.0 | 1.89E+00 |

Flag: "*" = Peak area was modified by background subtraction

Nuclide Line Activity Report

Nuclide Type: natural

| Nuclide | Energy | Area | %Abn | %Eff | Uncorrected pCi/L | Decay Corr pCi/L | 2-Sigma %Error |
|---------|---------|-------|--------|-----------|----------------------|---------------------|-------------------|
| K-40 | 1460.81 | 27 | 10.67* | 3.558E-01 | 4.158E+01 | 4.158E+01 | 114.02 |
| AC-228 | 835.50 | ----- | 1.75 | 5.422E-01 | ----- | Line Not Found | ----- |
| | 911.07 | 13 | 27.70* | 5.070E-01 | 5.578E+00 | 5.604E+00 | 205.09 |

Flag: "*" = Keyline

Summary of Nuclide Activity

Sample ID : 10L28821-6

Acquisition date : 8-JUN-2006 14:48:38

| | | |
|---|---|--------|
| Total number of lines in spectrum | 8 | |
| Number of unidentified lines | 6 | |
| Number of lines tentatively identified by NID | 2 | 25.00% |

Nuclide Type : natural

| Nuclide | Hlife | Decay | Uncorrected pCi/L | Decay Corr pCi/L | Decay Corr 2-Sigma Error | 2-Sigma %Error | Flags |
|------------------|-----------|-------|----------------------|---------------------|-----------------------------|-------------------|-------|
| K-40 | 1.28E+09Y | 1.00 | 4.158E+01 | 4.158E+01 | 4.741E+01 | 114.02 | |
| AC-228 | 5.75Y | 1.00 | 5.578E+00 | 5.604E+00 | 11.49E+00 | 205.09 | |
| Total Activity : | | | 4.716E+01 | 4.718E+01 | | | |

Grand Total Activity : 4.716E+01 4.718E+01

Flags: "K" = Keyline not found
 "E" = Manually edited

"M" = Manually accepted
 "A" = Nuclide specific abn. limit

Unidentified Energy Lines
Sample ID : 10L28821-6

Acquisition date : 8-JUN-2006 14:48:38

| It | Energy | Area | Bkgnd | FWHM | Channel | Left | Pw | Cts/Sec | %Err | %Eff | Flags |
|----|---------|------|-------|------|---------|------|----|----------|------|----------|-------|
| 1 | 66.46 | 92 | 377 | 1.27 | 132.03 | 128 | 8 | 7.26E-03 | 79.8 | 6.38E-01 | |
| 1 | 92.77 | 7 | 423 | 1.42 | 184.67 | 180 | 9 | 5.32E-04 | **** | 1.30E+00 | |
| 1 | 139.47 | 62 | 285 | 0.89 | 278.12 | 275 | 6 | 4.93E-03 | 90.0 | 1.68E+00 | |
| 1 | 596.21 | 73 | 53 | 1.45 | 1192.10 | 1186 | 10 | 5.80E-03 | 44.3 | 7.06E-01 | |
| 1 | 609.50 | 42 | 58 | 1.67 | 1218.70 | 1212 | 15 | 3.29E-03 | 98.9 | 6.94E-01 | |
| 1 | 1120.26 | 24 | 11 | 2.40 | 2241.01 | 2237 | 9 | 1.87E-03 | 82.6 | 4.33E-01 | |

Flags: "T" = Tentatively associated

Summary of Nuclide Activity

| | | |
|---|---|--------|
| Total number of lines in spectrum | 8 | |
| Number of unidentified lines | 6 | |
| Number of lines tentatively identified by NID | 2 | 25.00% |

Nuclide Type : natural

| Nuclide | Hlife | Decay | Wtd Mean Uncorrected pCi/L | Wtd Mean Decay Corr pCi/L | Decay Corr 2-Sigma Error | 2-Sigma %Error | Flags |
|------------------|-----------|-------|----------------------------------|---------------------------------|-----------------------------|-------------------|-------|
| K-40 | 1.28E+09Y | 1.00 | 4.158E+01 | 4.158E+01 | 4.741E+01 | 114.02 | |
| AC-228 | 5.75Y | 1.00 | 5.578E+00 | 5.604E+00 | 11.49E+00 | 205.09 | |
| Total Activity : | | | 4.716E+01 | 4.718E+01 | | | |

Grand Total Activity : 4.716E+01 4.718E+01

Flags: "K" = Keyline not found "M" = Manually accepted
"E" = Manually edited "A" = Nuclide specific abn. limit

Interference Report

No interference correction performed

Combined Activity-MDA Report

---- Identified Nuclides ----

| Nuclide | Activity (pCi/L) | Act error | MDA (pCi/L) | MDA error | Act/MDA |
|---------|---------------------|-----------|----------------|-----------|---------|
| K-40 | 4.158E+01 | 4.741E+01 | 5.186E+01 | 0.000E+00 | 0.802 |
| AC-228 | 5.604E+00 | 1.149E+01 | 1.810E+01 | 0.000E+00 | 0.310 |

---- Non-Identified Nuclides ----

| Nuclide | Key-Line Activity (pCi/L) | K.L. Ided | Act error | MDA (pCi/L) | MDA error | Act/MDA |
|---------|---------------------------------|--------------|-----------|---------------------|-----------|---------|
| BE-7 | 2.694E+01 | | 3.328E+01 | 5.727E+01 | 0.000E+00 | 0.470 |
| NA-24 | -7.261E-01 | | 1.029E+01 | Half-Life too short | | |
| CR-51 | -4.158E+01 | | 3.843E+01 | 6.054E+01 | 0.000E+00 | -0.687 |

Unidentified Energy Lines
Sample ID : 10L28821-6

Page : 3
Acquisition date : 8-JUN-2006 14:48:38

| It | Energy | Area | Bkgnd | FWHM | Channel | Left | Pw | Cts/Sec | %Err | %Eff | Flags |
|----|---------|------|-------|------|---------|------|----|----------|------|----------|-------|
| 1 | 66.46 | 92 | 377 | 1.27 | 132.03 | 128 | 8 | 7.26E-03 | 79.8 | 6.38E-01 | |
| 1 | 92.77 | 7 | 423 | 1.42 | 184.67 | 180 | 9 | 5.32E-04 | **** | 1.30E+00 | |
| 1 | 139.47 | 62 | 285 | 0.89 | 278.12 | 275 | 6 | 4.93E-03 | 90.0 | 1.68E+00 | |
| 1 | 596.21 | 73 | 53 | 1.45 | 1192.10 | 1186 | 10 | 5.80E-03 | 44.3 | 7.06E-01 | |
| 1 | 609.50 | 42 | 58 | 1.67 | 1218.70 | 1212 | 15 | 3.29E-03 | 98.9 | 6.94E-01 | |
| 1 | 1120.26 | 24 | 11 | 2.40 | 2241.01 | 2237 | 9 | 1.87E-03 | 82.6 | 4.33E-01 | |

Flags: "T" = Tentatively associated

Summary of Nuclide Activity

| | | |
|---|---|--------|
| Total number of lines in spectrum | 8 | |
| Number of unidentified lines | 6 | |
| Number of lines tentatively identified by NID | 2 | 25.00% |

Nuclide Type : natural

| Nuclide | Hlife | Decay | Wtd Mean Uncorrected pCi/L | Wtd Mean Decay Corr pCi/L | Decay Corr 2-Sigma Error | 2-Sigma %Error | Flags |
|------------------|-----------|-------|----------------------------------|---------------------------------|-----------------------------|-------------------|-------|
| K-40 | 1.28E+09Y | 1.00 | 4.158E+01 | 4.158E+01 | 4.741E+01 | 114.02 | |
| AC-228 | 5.75Y | 1.00 | 5.578E+00 | 5.604E+00 | 11.49E+00 | 205.09 | |
| Total Activity : | | | 4.716E+01 | 4.718E+01 | | | |

Grand Total Activity : 4.716E+01 4.718E+01

Flags: "K" = Keyline not found
"E" = Manually edited

"M" = Manually accepted
"A" = Nuclide specific abn. limit

Interference Report

No interference correction performed

Combined Activity-MDA Report

---- Identified Nuclides ----

| Nuclide | Activity (pCi/L) | Act error | MDA (pCi/L) | MDA error | Act/MDA |
|---------|---------------------|-----------|----------------|-----------|---------|
| K-40 | 4.158E+01 | 4.741E+01 | 5.186E+01 | 0.000E+00 | 0.802 |
| AC-228 | 5.604E+00 | 1.149E+01 | 1.810E+01 | 0.000E+00 | 0.310 |

---- Non-Identified Nuclides ----

| Nuclide | Key-Line Activity (pCi/L) | K.L. Ided | Act error | MDA (pCi/L) | MDA error | Act/MDA |
|---------|---------------------------------|--------------|-----------|---------------------|-----------|---------|
| BE-7 | 2.694E+01 | | 3.328E+01 | 5.727E+01 | 0.000E+00 | 0.470 |
| NA-24 | -7.261E-01 | | 1.029E+01 | Half-Life too short | | |
| CR-51 | -4.158E+01 | | 3.843E+01 | 6.054E+01 | 0.000E+00 | -0.687 |

| | | | | | |
|---------|------------|-----------|-----------|-----------|--------|
| MN-54 | 2.145E-01 | 3.209E+00 | 5.320E+00 | 0.000E+00 | 0.040 |
| CO-57 | -2.131E+00 | 3.509E+00 | 5.717E+00 | 0.000E+00 | -0.373 |
| CO-58 | -3.748E+00 | 3.496E+00 | 5.337E+00 | 0.000E+00 | -0.702 |
| FE-59 | 7.956E+00 | 7.231E+00 | 1.300E+01 | 0.000E+00 | 0.612 |
| CO-60 | -1.019E+00 | 3.098E+00 | 4.908E+00 | 0.000E+00 | -0.208 |
| ZN-65 | 8.487E+00 | 7.953E+00 | 1.247E+01 | 0.000E+00 | 0.681 |
| SE-75 | -2.198E+00 | 4.510E+00 | 7.351E+00 | 0.000E+00 | -0.299 |
| SR-85 | 2.000E+01 | 4.283E+00 | 8.290E+00 | 0.000E+00 | 2.413 |
| Y-88 | -4.873E-01 | 4.025E+00 | 6.506E+00 | 0.000E+00 | -0.075 |
| NB-94 | -1.387E+00 | 3.099E+00 | 4.894E+00 | 0.000E+00 | -0.283 |
| NB-95 | 4.340E+00 | 3.609E+00 | 6.424E+00 | 0.000E+00 | 0.676 |
| ZR-95 | -4.212E+00 | 6.177E+00 | 9.777E+00 | 0.000E+00 | -0.431 |
| MO-99 | 5.424E+02 | 7.599E+02 | 1.322E+03 | 0.000E+00 | 0.410 |
| RU-103 | 3.523E+00 | 4.201E+00 | 7.231E+00 | 0.000E+00 | 0.487 |
| RU-106 | -4.038E+00 | 3.151E+01 | 4.816E+01 | 0.000E+00 | -0.084 |
| AG-110m | -9.944E-01 | 3.057E+00 | 4.881E+00 | 0.000E+00 | -0.204 |
| SN-113 | -2.255E+00 | 4.538E+00 | 5.723E+00 | 0.000E+00 | -0.312 |
| SB-124 | 1.770E+00 | 7.460E+00 | 5.534E+00 | 0.000E+00 | 0.320 |
| SB-125 | -6.602E+00 | 9.605E+00 | 1.507E+01 | 0.000E+00 | -0.438 |
| TE-129M | -2.562E+01 | 4.584E+01 | 7.405E+01 | 0.000E+00 | -0.346 |
| I-131 | 2.244E+00 | 1.042E+01 | 1.721E+01 | 0.000E+00 | 0.130 |
| BA-133 | 6.620E+00 | 4.651E+00 | 8.047E+00 | 0.000E+00 | 0.823 |
| CS-134 | 5.101E+00 | 5.022E+00 | 5.530E+00 | 0.000E+00 | 0.922 |
| CS-136 | 4.503E+00 | 6.493E+00 | 1.122E+01 | 0.000E+00 | 0.401 |
| CS-137 | 3.804E+00 | 3.185E+00 | 5.608E+00 | 0.000E+00 | 0.678 |
| CE-139 | 3.310E-01 | 3.472E+00 | 5.702E+00 | 0.000E+00 | 0.058 |
| BA-140 | -1.743E+01 | 2.345E+01 | 3.705E+01 | 0.000E+00 | -0.470 |
| LA-140 | 7.099E+00 | 7.788E+00 | 1.399E+01 | 0.000E+00 | 0.507 |
| CE-141 | 7.111E+00 | 8.740E+00 | 1.259E+01 | 0.000E+00 | 0.565 |
| CE-144 | -9.112E+00 | 3.130E+01 | 4.337E+01 | 0.000E+00 | -0.210 |
| EU-152 | -1.235E+01 | 1.080E+01 | 1.691E+01 | 0.000E+00 | -0.730 |
| EU-154 | 2.200E+00 | 7.118E+00 | 1.186E+01 | 0.000E+00 | 0.186 |
| RA-226 | -4.651E+01 | 8.397E+01 | 1.325E+02 | 0.000E+00 | -0.351 |
| TH-228 | 5.623E-01 | 6.302E+00 | 1.037E+01 | 0.000E+00 | 0.054 |
| TH-232 | 5.578E+00 | 1.144E+01 | 2.024E+01 | 0.000E+00 | 0.276 |
| U-235 | 2.620E+01 | 3.003E+01 | 4.336E+01 | 0.000E+00 | 0.604 |
| U-238 | -2.172E+01 | 3.283E+02 | 5.331E+02 | 0.000E+00 | -0.041 |
| AM-241 | -3.348E+01 | 3.396E+01 | 4.712E+01 | 0.000E+00 | -0.711 |

A,10L28821-6 ,06/08/2006 18:19,05/25/2006 15:00, 3.631E+00,WG L28821-6 DR
 B,10L28821-6 ,LIBD ,06/07/2006 09:32,1035L091004
 C,K-40 ,YES, 4.158E+01, 4.741E+01, 5.186E+01,, 0.802
 C,AC-228 ,YES, 5.604E+00, 1.149E+01, 1.810E+01,, 0.310
 C,BE-7 ,NO , 2.694E+01, 3.328E+01, 5.727E+01,, 0.470
 C,CR-51 ,NO , -4.158E+01, 3.843E+01, 6.054E+01,, -0.687
 C,MN-54 ,NO , 2.145E-01, 3.209E+00, 5.320E+00,, 0.040
 C,CO-57 ,NO , -2.131E+00, 3.509E+00, 5.717E+00,, -0.373
 C,CO-58 ,NO , -3.748E+00, 3.496E+00, 5.337E+00,, -0.702
 C,FE-59 ,NO , 7.956E+00, 7.231E+00, 1.300E+01,, 0.612
 C,CO-60 ,NO , -1.019E+00, 3.098E+00, 4.908E+00,, -0.208
 C,ZN-65 ,NO , 8.487E+00, 7.953E+00, 1.247E+01,, 0.681
 C,SE-75 ,NO , -2.198E+00, 4.510E+00, 7.351E+00,, -0.299
 C,SR-85 ,NO , 2.000E+01, 4.283E+00, 8.290E+00,, 2.413
 C,Y-88 ,NO , -4.873E-01, 4.025E+00, 6.506E+00,, -0.075
 C,NB-94 ,NO , -1.387E+00, 3.099E+00, 4.894E+00,, -0.283
 C,NB-95 ,NO , 4.340E+00, 3.609E+00, 6.424E+00,, -0.676
 C,ZR-95 ,NO , -4.212E+00, 6.177E+00, 9.777E+00,, -0.431
 C,MO-99 ,NO , 5.424E+02, 7.599E+02, 1.322E+03,, 0.410
 C,RU-103 ,NO , 3.523E+00, 4.201E+00, 7.231E+00,, 0.487
 C,RU-106 ,NO , -4.038E+00, 3.151E+01, 4.816E+01,, -0.084
 C,AG-110m ,NO , -9.944E-01, 3.057E+00, 4.881E+00,, -0.204
 C,SN-113 ,NO , -2.255E+00, 4.538E+00, 7.230E+00,, -0.312
 C,SB-124 ,NO , 1.770E+00, 7.460E+00, 5.534E+00,, 0.320
 C,SB-125 ,NO , -6.602E+00, 9.605E+00, 1.507E+01,, -0.438
 C,TE-129M ,NO , -2.562E+01, 4.584E+01, 7.405E+01,, -0.346
 C,I-131 ,NO , 2.244E+00, 1.042E+01, 1.721E+01,, 0.130
 C,BA-133 ,NO , 6.620E+00, 4.651E+00, 8.047E+00,, 0.823
 C,CS-134 ,NO , 5.101E+00, 5.022E+00, 5.530E+00,, 0.922
 C,CS-136 ,NO , 4.503E+00, 6.493E+00, 1.122E+01,, 0.401
 C,CS-137 ,NO , 3.804E+00, 3.185E+00, 5.608E+00,, 0.678
 C,CE-139 ,NO , 3.310E-01, 3.472E+00, 5.702E+00,, 0.058
 C,BA-140 ,NO , -1.743E+01, 2.345E+01, 3.705E+01,, -0.470
 C,LA-140 ,NO , 7.099E+00, 7.788E+00, 1.399E+01,, 0.507
 C,CE-141 ,NO , 7.111E+00, 8.740E+00, 1.259E+01,, 0.565
 C,CE-144 ,NO , -9.112E+00, 3.130E+01, 4.337E+01,, -0.210
 C,EU-152 ,NO , -1.235E+01, 1.080E+01, 1.691E+01,, -0.730
 C,EU-154 ,NO , 2.200E+00, 7.118E+00, 1.186E+01,, 0.186
 C,RA-226 ,NO , -4.651E+01, 8.397E+01, 1.325E+02,, -0.351
 C,TH-228 ,NO , 5.623E-01, 6.302E+00, 1.037E+01,, 0.054
 C,TH-232 ,NO , 5.578E+00, 1.144E+01, 2.024E+01,, 0.276
 C,U-235 ,NO , 2.620E+01, 3.003E+01, 4.336E+01,, 0.604
 C,U-238 ,NO , -2.172E+01, 3.283E+02, 5.331E+02,, -0.041
 C,AM-241 ,NO , -3.348E+01, 3.396E+01, 4.712E+01,, -0.711

Sec. Review: Analyst: LIMS: ✓

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VAX/VMS Teledyne Brown Eng. Laboratory Gamma Report: 8-JUN-2006 18:14:50.69

TBE11 P-20610B HpGe ***** Aquisition Date/Time: 8-JUN-2006 14:48:40.21

LIMS No., Customer Name, Client ID: WG L28821-7 DRESDEN

| | | | |
|---------------|-----------------|---------------|-----------------------|
| Sample ID | : 11L28821-7 | Smple Date: | 25-MAY-2006 17:00:00. |
| Sample Type | : WG | Geometry | : 1135L090204 |
| Quantity | : 3.63330E+00 L | BKGFILE | : 11BG060306MT |
| Start Channel | : 40 | Energy Tol | : 1.00000 |
| End Channel | : 4090 | Real Time | : 0 03:26:06.91 |
| MDA Constant | : 0.00 | Live time | : 0 03:26:02.48 |
| | | Pk Srch Sens: | 5.00000 |
| | | Library Used: | LIBD |

| Pk | It | Energy | Area | Bkgnd | FWHM | Channel | %Eff | Cts/Sec | %Err | Fit |
|----|----|----------|------|-------|------|---------|----------|----------|-------|-----|
| 1 | 0 | 93.13* | 53 | 321 | 2.11 | 185.43 | 1.28E+00 | 4.31E-03 | 68.2 | |
| 2 | 0 | 139.62* | 119 | 322 | 1.61 | 278.67 | 1.69E+00 | 9.61E-03 | 31.3 | |
| 3 | 0 | 185.56* | 15 | 268 | 1.22 | 370.80 | 1.62E+00 | 1.21E-03 | 216.2 | |
| 4 | 0 | 198.42 | 86 | 315 | 1.40 | 396.60 | 1.57E+00 | 6.98E-03 | 40.2 | |
| 5 | 0 | 239.31* | 6 | 373 | 0.64 | 478.58 | 1.42E+00 | 5.10E-04 | 708.8 | |
| 6 | 0 | 351.68* | 104 | 146 | 1.15 | 703.82 | 1.08E+00 | 8.44E-03 | 27.9 | |
| 7 | 0 | 609.50* | 69 | 101 | 1.69 | 1220.26 | 7.02E-01 | 5.59E-03 | 36.2 | |
| 8 | 0 | 912.66 | 69 | 45 | 1.73 | 1826.92 | 5.13E-01 | 5.61E-03 | 26.5 | |
| 9 | 0 | 966.49 | 46 | 55 | 4.80 | 1934.56 | 4.91E-01 | 3.72E-03 | 43.6 | |
| 10 | 0 | 1323.58 | 14 | 6 | 1.36 | 2648.14 | 3.83E-01 | 1.13E-03 | 38.5 | |
| 11 | 0 | 1461.04* | 37 | 25 | 2.26 | 2922.57 | 3.54E-01 | 3.01E-03 | 44.5 | |

Flag: "*" = Peak area was modified by background subtraction

Nuclide Line Activity Report

Nuclide Type: natural

| Nuclide | Energy | Area | %Abn | %Eff | Uncorrected pCi/L | Decay Corr pCi/L | 2-Sigma %Error |
|---------|---------|-------|--------|-----------|----------------------|---------------------|-------------------|
| K-40 | 1460.81 | 37 | 10.67* | 3.539E-01 | 5.922E+01 | 5.922E+01 | 89.01 |
| RA-226 | 186.21 | 15 | 3.28* | 1.616E+00 | 1.705E+01 | 1.705E+01 | 432.49 |
| TH-228 | 238.63 | 6 | 44.60* | 1.419E+00 | 6.001E-01 | 6.084E-01 | 1417.52 |
| | 240.98 | ----- | 3.95 | 1.413E+00 | ----- | Line Not Found | ----- |
| U-235 | 143.76 | ----- | 10.50* | 1.695E+00 | ----- | Line Not Found | ----- |
| | 163.35 | ----- | 4.70 | 1.678E+00 | ----- | Line Not Found | ----- |
| | 185.71 | 15 | 54.00 | 1.616E+00 | 1.035E+00 | 1.035E+00 | 432.49 |
| | 205.31 | ----- | 4.70 | 1.546E+00 | ----- | Line Not Found | ----- |

Flag: "*" = Keyline

Summary of Nuclide Activity

Sample ID : 11L28821-7

Acquisition date : 8-JUN-2006 14:48:40

| | | |
|---|----|--------|
| Total number of lines in spectrum | 11 | |
| Number of unidentified lines | 8 | |
| Number of lines tentatively identified by NID | 3 | 27.27% |

Nuclide Type : natural

| Nuclide | Hlife | Decay | Uncorrected pCi/L | Decay Corr pCi/L | Decay Corr 2-Sigma Error | 2-Sigma %Error | Flags |
|------------------|-----------|-------|----------------------|---------------------|-----------------------------|-------------------|-------|
| K-40 | 1.28E+09Y | 1.00 | 5.922E+01 | 5.922E+01 | 5.272E+01 | 89.01 | |
| RA-226 | 1600.00Y | 1.00 | 1.705E+01 | 1.705E+01 | 7.372E+01 | 432.49 | |
| TH-228 | 1.91Y | 1.01 | 6.001E-01 | 6.084E-01 | 86.25E-01 | 1417.52 | |
| U-235 | 7.04E+08Y | 1.00 | 1.035E+00 | 1.035E+00 | 4.478E+00 | 432.49 | K |
| Total Activity : | | | 7.791E+01 | 7.791E+01 | | | |

Grand Total Activity : 7.791E+01 7.791E+01

Flags: "K" = Keyline not found
 "E" = Manually edited

"M" = Manually accepted
 "A" = Nuclide specific abn. limit

Unidentified Energy Lines
Sample ID : 11L28821-7

Acquisition date : 8-JUN-2006 14:48:40

| It | Energy | Area | Bkgnd | FWHM | Channel | Left | Pw | Cts/Sec | %Err | %Eff | Flags |
|----|---------|------|-------|------|---------|------|----|----------|------|----------|-------|
| 0 | 93.13 | 53 | 321 | 2.11 | 185.43 | 181 | 9 | 4.31E-03 | **** | 1.28E+00 | |
| 0 | 139.62 | 119 | 322 | 1.61 | 278.67 | 273 | 10 | 9.61E-03 | 62.6 | 1.69E+00 | |
| 0 | 198.42 | 86 | 315 | 1.40 | 396.60 | 392 | 10 | 6.98E-03 | 80.3 | 1.57E+00 | |
| 0 | 351.68 | 104 | 146 | 1.15 | 703.82 | 697 | 13 | 8.44E-03 | 55.7 | 1.08E+00 | |
| 0 | 609.50 | 69 | 101 | 1.69 | 1220.26 | 1214 | 15 | 5.59E-03 | 72.4 | 7.02E-01 | |
| 0 | 912.66 | 69 | 45 | 1.73 | 1826.92 | 1817 | 20 | 5.61E-03 | 53.1 | 5.13E-01 | |
| 0 | 966.49 | 46 | 55 | 4.80 | 1934.56 | 1921 | 22 | 3.72E-03 | 87.3 | 4.91E-01 | |
| 0 | 1323.58 | 14 | 6 | 1.36 | 2648.14 | 2645 | 6 | 1.13E-03 | 76.9 | 3.83E-01 | |

Flags: "T" = Tentatively associated

Summary of Nuclide Activity

| | |
|---|--------|
| Total number of lines in spectrum | 11 |
| Number of unidentified lines | 8 |
| Number of lines tentatively identified by NID | 3 |
| | 27.27% |

Nuclide Type : natural

| Nuclide | Hlife | Decay | Wtd Mean Uncorrected pCi/L | Wtd Mean Decay Corr pCi/L | Decay Corr 2-Sigma Error | 2-Sigma %Error | Flags |
|------------------|-----------|-------|----------------------------------|---------------------------------|-----------------------------|-------------------|-------|
| K-40 | 1.28E+09Y | 1.00 | 5.922E+01 | 5.922E+01 | 5.272E+01 | 89.01 | |
| RA-226 | 1600.00Y | 1.00 | 1.705E+01 | 1.705E+01 | 7.372E+01 | 432.49 | |
| TH-228 | 1.91Y | 1.01 | 6.001E-01 | 6.084E-01 | 86.25E-01 | 1417.52 | |
| Total Activity : | | | 7.687E+01 | 7.688E+01 | | | |

Grand Total Activity : 7.687E+01 7.688E+01

Flags: "K" = Keyline not found "M" = Manually accepted
"E" = Manually edited "A" = Nuclide specific abn. limit

Interference Report

No interference correction performed

Combined Activity-MDA Report

---- Identified Nuclides ----

| Nuclide | Activity (pCi/L) | Act error | MDA (pCi/L) | MDA error | Act/MDA |
|---------|---------------------|-----------|----------------|-----------|---------|
| K-40 | 5.922E+01 | 5.272E+01 | 5.044E+01 | 0.000E+00 | 1.174 |
| RA-226 | 1.705E+01 | 7.372E+01 | 1.238E+02 | 0.000E+00 | 0.138 |
| TH-228 | 6.084E-01 | 8.625E+00 | 9.289E+00 | 0.000E+00 | 0.066 |

---- Non-Identified Nuclides ----

| Nuclide | Key-Line Activity (pCi/L) | K.L. Ided | Act error | MDA (pCi/L) | MDA error | Act/MDA |
|---------|---------------------------------|--------------|-----------|----------------|-----------|---------|
|---------|---------------------------------|--------------|-----------|----------------|-----------|---------|

| | | | | | |
|---------|------------|-----------|---------------------|-----------|--------|
| BE-7 | 1.727E+01 | 3.171E+01 | 5.321E+01 | 0.000E+00 | 0.324 |
| NA-24 | -5.056E+00 | 8.849E+00 | Half-Life too short | | |
| CR-51 | -8.651E+00 | 3.777E+01 | 6.193E+01 | 0.000E+00 | -0.140 |
| MN-54 | 3.116E+00 | 2.971E+00 | 5.244E+00 | 0.000E+00 | 0.594 |
| CO-57 | 2.087E-01 | 3.181E+00 | 5.254E+00 | 0.000E+00 | 0.040 |
| CO-58 | -9.985E-01 | 3.394E+00 | 5.444E+00 | 0.000E+00 | -0.183 |
| FE-59 | -9.012E+00 | 7.022E+00 | 1.032E+01 | 0.000E+00 | -0.873 |
| CO-60 | 1.188E+00 | 3.392E+00 | 5.244E+00 | 0.000E+00 | 0.227 |
| ZN-65 | 4.750E+00 | 7.315E+00 | 1.268E+01 | 0.000E+00 | 0.375 |
| SE-75 | -5.862E+00 | 4.397E+00 | 6.961E+00 | 0.000E+00 | -0.842 |
| SR-85 | 1.880E+01 | 4.272E+00 | 8.156E+00 | 0.000E+00 | 2.305 |
| Y-88 | -2.580E-01 | 3.823E+00 | 6.247E+00 | 0.000E+00 | -0.041 |
| NB-94 | -1.640E+00 | 3.116E+00 | 4.975E+00 | 0.000E+00 | -0.330 |
| NB-95 | -1.842E+00 | 3.546E+00 | 5.621E+00 | 0.000E+00 | -0.328 |
| ZR-95 | -2.153E+00 | 6.087E+00 | 9.760E+00 | 0.000E+00 | -0.221 |
| MO-99 | -1.340E+02 | 7.369E+02 | 1.197E+03 | 0.000E+00 | -0.112 |
| RU-103 | 3.732E+00 | 4.011E+00 | 6.858E+00 | 0.000E+00 | 0.544 |
| RU-106 | 2.906E+01 | 3.109E+01 | 5.177E+01 | 0.000E+00 | 0.561 |
| AG-110m | -1.240E+00 | 3.059E+00 | 4.928E+00 | 0.000E+00 | -0.252 |
| SN-113 | 1.872E+00 | 4.316E+00 | 7.237E+00 | 0.000E+00 | 0.259 |
| SB-124 | -2.281E+00 | 4.565E+00 | 6.149E+00 | 0.000E+00 | -0.371 |
| SB-125 | -2.123E+00 | 8.975E+00 | 1.453E+01 | 0.000E+00 | -0.146 |
| TE-129M | -5.803E+00 | 4.634E+01 | 7.522E+01 | 0.000E+00 | -0.077 |
| I-131 | 4.818E+00 | 1.022E+01 | 1.720E+01 | 0.000E+00 | 0.280 |
| BA-133 | 6.163E+00 | 5.092E+00 | 7.646E+00 | 0.000E+00 | 0.806 |
| CS-134 | -2.148E-01 | 4.428E+00 | 6.189E+00 | 0.000E+00 | -0.035 |
| CS-136 | 4.897E-01 | 6.116E+00 | 1.009E+01 | 0.000E+00 | 0.049 |
| CS-137 | -1.586E+00 | 3.341E+00 | 5.359E+00 | 0.000E+00 | -0.296 |
| CE-139 | -3.168E+00 | 3.313E+00 | 5.268E+00 | 0.000E+00 | -0.601 |
| BA-140 | 3.845E+00 | 2.178E+01 | 3.578E+01 | 0.000E+00 | 0.107 |
| LA-140 | -3.403E+00 | 7.230E+00 | 1.137E+01 | 0.000E+00 | -0.299 |
| CE-141 | 2.668E+00 | 7.977E+00 | 1.127E+01 | 0.000E+00 | 0.237 |
| CE-144 | -8.819E+00 | 2.922E+01 | 4.029E+01 | 0.000E+00 | -0.219 |
| EU-152 | -1.111E+01 | 1.156E+01 | 1.512E+01 | 0.000E+00 | -0.735 |
| EU-154 | 3.543E-01 | 6.495E+00 | 1.072E+01 | 0.000E+00 | 0.033 |
| AC-228 | 9.217E+00 | 1.453E+01 | 2.143E+01 | 0.000E+00 | 0.430 |
| TH-232 | 9.175E+00 | 1.447E+01 | 2.133E+01 | 0.000E+00 | 0.430 |
| U-235 | 1.363E+01 | 2.800E+01 | 3.983E+01 | 0.000E+00 | 0.342 |
| U-238 | 7.995E+01 | 3.224E+02 | 5.468E+02 | 0.000E+00 | 0.146 |
| AM-241 | -3.773E+01 | 4.196E+01 | 6.652E+01 | 0.000E+00 | -0.567 |

A,11L28821-7 ,06/08/2006 18:14,05/25/2006 17:00, 3.633E+00,WG L28821-7 DR
 B,11L28821-7 ,LIBD ,06/07/2006 09:40,1135L090204
 C,K-40 ,YES, 5.922E+01, 5.272E+01, 5.044E+01,, 1.174
 C,RA-226 ,YES, 1.705E+01, 7.372E+01, 1.238E+02,, 0.138
 C,TH-228 ,YES, 6.084E-01, 8.625E+00, 9.289E+00,, 0.066
 C,BE-7 ,NO , 1.727E+01, 3.171E+01, 5.321E+01,, 0.324
 C,CR-51 ,NO , -8.651E+00, 3.777E+01, 6.193E+01,, -0.140
 C,MN-54 ,NO , 3.116E+00, 2.971E+00, 5.244E+00,, 0.594
 C,CO-57 ,NO , 2.087E-01, 3.181E+00, 5.254E+00,, 0.040
 C,CO-58 ,NO , -9.985E-01, 3.394E+00, 5.444E+00,, -0.183
 C,FE-59 ,NO , -9.012E+00, 7.022E+00, 1.032E+01,, -0.873
 C,CO-60 ,NO , 1.188E+00, 3.392E+00, 5.244E+00,, 0.227
 C,ZN-65 ,NO , 4.750E+00, 7.315E+00, 1.268E+01,, 0.375
 C,SE-75 ,NO , -5.862E+00, 4.397E+00, 6.961E+00,, -0.842
 C,SR-85 ,NO , 1.880E+01, 4.272E+00, 8.156E+00,, 2.305
 C,Y-88 ,NO , -2.580E-01, 3.823E+00, 6.247E+00,, -0.041
 C,NB-94 ,NO , -1.640E+00, 3.116E+00, 4.975E+00,, -0.330
 C,NB-95 ,NO , -1.842E+00, 3.546E+00, 5.621E+00,, -0.328
 C,ZR-95 ,NO , -2.153E+00, 6.087E+00, 9.760E+00,, -0.221
 C,MO-99 ,NO , -1.340E+02, 7.369E+02, 1.197E+03,, -0.112
 C,RU-103 ,NO , 3.732E+00, 4.011E+00, 6.858E+00,, 0.544
 C,RU-106 ,NO , 2.906E+01, 3.109E+01, 5.177E+01,, 0.561
 C,AG-110m ,NO , -1.240E+00, 3.059E+00, 4.928E+00,, -0.252
 C,SN-113 ,NO , 1.872E+00, 4.316E+00, 7.237E+00,, 0.259
 C,SB-124 ,NO , -2.281E+00, 4.565E+00, 6.149E+00,, -0.371
 C,SB-125 ,NO , -2.123E+00, 8.975E+00, 1.453E+01,, -0.146
 C,TE-129M ,NO , -5.803E+00, 4.634E+01, 7.522E+01,, -0.077
 C,I-131 ,NO , 4.818E+00, 1.022E+01, 1.720E+01,, 0.280
 C,BA-133 ,NO , 6.163E+00, 5.092E+00, 7.646E+00,, 0.806
 C,CS-134 ,NO , -2.148E-01, 4.428E+00, 6.189E+00,, -0.035
 C,CS-136 ,NO , 4.897E-01, 6.116E+00, 1.009E+01,, 0.049
 C,CS-137 ,NO , -1.586E+00, 3.341E+00, 5.359E+00,, -0.296
 C,CE-139 ,NO , -3.168E+00, 3.313E+00, 5.268E+00,, -0.601
 C,BA-140 ,NO , 3.845E+00, 2.178E+01, 3.578E+01,, 0.107
 C,LA-140 ,NO , -3.403E+00, 7.230E+00, 1.137E+01,, -0.299
 C,CE-141 ,NO , 2.668E+00, 7.977E+00, 1.127E+01,, 0.237
 C,CE-144 ,NO , -8.819E+00, 2.922E+01, 4.029E+01,, -0.219
 C,EU-152 ,NO , -1.111E+01, 1.156E+01, 1.512E+01,, -0.735
 C,EU-154 ,NO , 3.543E-01, 6.495E+00, 1.072E+01,, 0.033
 C,AC-228 ,NO , 9.217E+00, 1.453E+01, 2.143E+01,, 0.430
 C,TH-232 ,NO , 9.175E+00, 1.447E+01, 2.133E+01,, 0.430
 C,U-235 ,NO , 1.363E+01, 2.800E+01, 3.983E+01,, 0.342
 C,U-238 ,NO , 7.995E+01, 3.224E+02, 5.468E+02,, 0.146
 C,AM-241 ,NO , -3.773E+01, 4.196E+01, 6.652E+01,, -0.567

Sec. Review: Analyst: LIMS: ✓

VAX/VMS Teledyne Brown Eng. Laboratory Gamma Report: 9-JUN-2006 04:09:46.18
TBE13 P-10727B HpGe ***** Aquisition Date/Time: 8-JUN-2006 14:48:43.23

LIMS No., Customer Name, Client ID: WG L28821-8 DRESDEN

| | | | |
|---------------|-----------------|---------------|-----------------------|
| Sample ID | : 13L28821-8 | Smple Date: | 30-MAY-2006 10:55:00. |
| Sample Type | : WG | Geometry | : 1335L090904 |
| Quantity | : 2.84980E+00 L | BKGFILE | : 13BG060306MT |
| Start Channel | : 25 | Energy Tol | : 1.00000 |
| End Channel | : 4090 | Pk Srch Sens: | 5.00000 |
| MDA Constant | : 0.00 | Library Used: | LIBD |
| | | Real Time | : 0 13:20:49.34 |
| | | Live time | : 0 13:20:35.61 |

| Pk | It | Energy | Area | Bkgnd | FWHM | Channel | %Eff | Cts/Sec | %Err | Fit |
|----|----|----------|------|-------|------|---------|----------|----------|-------|----------|
| 1 | 1 | 46.40* | 375 | 2224 | 2.52 | 92.93 | 1.43E-01 | 7.81E-03 | 29.8 | 2.30E+00 |
| 2 | 2 | 63.55* | 156 | 1485 | 1.36 | 127.20 | 6.29E-01 | 3.25E-03 | 55.5 | 4.39E+00 |
| 3 | 2 | 66.27 | 375 | 1420 | 1.37 | 132.65 | 7.23E-01 | 7.81E-03 | 18.6 | |
| 4 | 3 | 77.17* | 41 | 1023 | 0.96 | 154.42 | 1.09E+00 | 8.61E-04 | 151.2 | 2.39E+00 |
| 5 | 1 | 139.66* | 272 | 1794 | 1.02 | 279.34 | 2.02E+00 | 5.66E-03 | 33.4 | 1.01E+00 |
| 6 | 1 | 185.71* | 103 | 1364 | 1.13 | 371.37 | 1.95E+00 | 2.14E-03 | 83.1 | 6.63E-01 |
| 7 | 1 | 198.39* | 345 | 1390 | 1.06 | 396.73 | 1.90E+00 | 7.18E-03 | 23.7 | 1.65E+00 |
| 8 | 1 | 238.43* | 109 | 1627 | 1.25 | 476.77 | 1.73E+00 | 2.27E-03 | 87.3 | 2.30E+00 |
| 9 | 1 | 295.04* | 35 | 956 | 1.14 | 589.96 | 1.52E+00 | 7.29E-04 | 196.5 | 1.06E+00 |
| 10 | 1 | 351.82* | 168 | 770 | 1.58 | 703.48 | 1.34E+00 | 3.50E-03 | 40.4 | 2.81E+00 |
| 11 | 1 | 583.06* | 50 | 335 | 1.99 | 1165.98 | 9.26E-01 | 1.03E-03 | 102.8 | 1.60E+00 |
| 12 | 1 | 595.83 | 197 | 341 | 1.59 | 1191.52 | 9.11E-01 | 4.11E-03 | 19.1 | 1.36E+00 |
| 13 | 1 | 609.04* | 128 | 325 | 1.24 | 1217.96 | 8.97E-01 | 2.66E-03 | 38.4 | 1.74E+00 |
| 14 | 1 | 911.10* | 9 | 340 | 1.82 | 1822.39 | 6.64E-01 | 1.95E-04 | 560.5 | 4.53E+00 |
| 15 | 1 | 969.22* | 2 | 222 | 1.60 | 1938.73 | 6.34E-01 | 4.11E-05 | ***** | 1.63E+00 |
| 16 | 1 | 1120.50* | 7 | 154 | 1.68 | 2241.60 | 5.69E-01 | 1.44E-04 | 501.2 | 1.68E+00 |
| 17 | 1 | 1239.34* | 15 | 207 | 1.08 | 2479.57 | 5.28E-01 | 3.22E-04 | 247.2 | 8.96E+00 |
| 18 | 1 | 1461.00* | 96 | 172 | 1.81 | 2923.58 | 4.69E-01 | 1.99E-03 | 46.2 | 9.84E-01 |
| 19 | 1 | 1764.71* | 11 | 97 | 2.21 | 3532.22 | 4.11E-01 | 2.20E-04 | 285.4 | 1.20E+00 |
| 20 | 1 | 1848.19 | 72 | 79 | 1.39 | 3699.58 | 3.99E-01 | 1.49E-03 | 29.4 | 9.70E+00 |

Flag: "*" = Peak area was modified by background subtraction

Nuclide Line Activity Report

Nuclide Type: natural

| Nuclide | Energy | Area | %Abn | %Eff | Uncorrected pCi/L | Decay Corr pCi/L | 2-Sigma %Error |
|---------|---------|-------|--------|-----------|-------------------|------------------|----------------|
| K-40 | 1460.81 | 96 | 10.67* | 4.688E-01 | 3.780E+01 | 3.780E+01 | 92.37 |
| RA-226 | 186.21 | 103 | 3.28* | 1.946E+00 | 3.177E+01 | 3.177E+01 | 166.23 |
| AC-228 | 835.50 | ----- | 1.75 | 7.084E-01 | ----- | Line Not Found | ----- |
| | 911.07 | 9 | 27.70* | 6.640E-01 | 1.007E+00 | 1.011E+00 | 1120.92 |
| TH-228 | 238.63 | 109 | 44.60* | 1.734E+00 | 2.789E+00 | 2.815E+00 | 174.58 |
| | 240.98 | ----- | 3.95 | 1.723E+00 | ----- | Line Not Found | ----- |
| TH-232 | 583.14 | 50 | 30.25 | 9.263E-01 | 3.488E+00 | 3.488E+00 | 205.65 |
| | 911.07 | 9 | 27.70* | 6.640E-01 | 1.007E+00 | 1.007E+00 | 1120.92 |

| | | | | | | |
|--------|-------|-------|-----------|-----------|----------------|--------|
| 163.35 | ----- | 4.70 | 2.011E+00 | ----- | Line Not Found | ----- |
| 185.71 | 103 | 54.00 | 1.946E+00 | 1.930E+00 | 1.930E+00 | 166.23 |
| 205.31 | ----- | 4.70 | 1.871E+00 | ----- | Line Not Found | ----- |

Flag: "*" = Keyline

Summary of Nuclide Activity

Page : 2

Sample ID : 13L28821-8

Acquisition date : 8-JUN-2006 14:48:43

| | | |
|---|----|--------|
| Total number of lines in spectrum | 20 | |
| Number of unidentified lines | 14 | |
| Number of lines tentatively identified by NID | 6 | 30.00% |

Nuclide Type : natural

| Nuclide | Hlife | Decay | Uncorrected pCi/L | Decay Corr pCi/L | Decay Corr 2-Sigma Error | 2-Sigma %Error | Flags |
|------------------|-----------|-------|----------------------|---------------------|-----------------------------|-------------------|-------|
| K-40 | 1.28E+09Y | 1.00 | 3.780E+01 | 3.780E+01 | 3.491E+01 | 92.37 | |
| RA-226 | 1600.00Y | 1.00 | 3.177E+01 | 3.177E+01 | 5.281E+01 | 166.23 | |
| AC-228 | 5.75Y | 1.00 | 1.007E+00 | 1.011E+00 | 11.33E+00 | 1120.92 | |
| TH-228 | 1.91Y | 1.01 | 2.789E+00 | 2.815E+00 | 4.914E+00 | 174.58 | |
| TH-232 | 1.41E+10Y | 1.00 | 1.007E+00 | 1.007E+00 | 11.29E+00 | 1120.92 | |
| U-235 | 7.04E+08Y | 1.00 | 1.930E+00 | 1.930E+00 | 3.208E+00 | 166.23 | K |
| Total Activity : | | | 7.630E+01 | 7.633E+01 | | | |

Grand Total Activity : 7.630E+01 7.633E+01

Flags: "K" = Keyline not found
 "E" = Manually edited

"M" = Manually accepted
 "A" = Nuclide specific abn. limit

Unidentified Energy Lines
Sample ID : 13L28821-8

Page : 3
Acquisition date : 8-JUN-2006 14:48:43

| It | Energy | Area | Bkgnd | FWHM | Channel | Left | Pw | Cts/Sec | %Err | %Eff | Flags |
|----|---------|------|-------|------|---------|------|----|----------|------|----------|-------|
| 1 | 46.40 | 375 | 2224 | 2.52 | 92.93 | 87 | 15 | 7.81E-03 | 59.7 | 1.43E-01 | |
| 2 | 63.55 | 156 | 1485 | 1.36 | 127.20 | 121 | 16 | 3.25E-03 | **** | 6.29E-01 | |
| 2 | 66.27 | 375 | 1420 | 1.37 | 132.65 | 121 | 16 | 7.81E-03 | 37.2 | 7.23E-01 | |
| 3 | 77.17 | 41 | 1023 | 0.96 | 154.42 | 141 | 17 | 8.61E-04 | **** | 1.09E+00 | |
| 1 | 139.66 | 272 | 1794 | 1.02 | 279.34 | 275 | 10 | 5.66E-03 | 66.9 | 2.02E+00 | |
| 1 | 198.39 | 345 | 1390 | 1.06 | 396.73 | 393 | 10 | 7.18E-03 | 47.4 | 1.90E+00 | |
| 1 | 295.04 | 35 | 956 | 1.14 | 589.96 | 585 | 10 | 7.29E-04 | **** | 1.52E+00 | |
| 1 | 351.82 | 168 | 770 | 1.58 | 703.48 | 698 | 11 | 3.50E-03 | 80.7 | 1.34E+00 | |
| 1 | 595.83 | 197 | 341 | 1.59 | 1191.52 | 1187 | 10 | 4.11E-03 | 38.1 | 9.11E-01 | |
| 1 | 609.04 | 128 | 325 | 1.24 | 1217.96 | 1214 | 9 | 2.66E-03 | 76.9 | 8.97E-01 | |
| 1 | 1120.50 | 7 | 154 | 1.68 | 2241.60 | 2237 | 10 | 1.44E-04 | **** | 5.69E-01 | |
| 1 | 1239.34 | 15 | 207 | 1.08 | 2479.57 | 2471 | 18 | 3.22E-04 | **** | 5.28E-01 | |
| 1 | 1764.71 | 11 | 97 | 2.21 | 3532.22 | 3525 | 16 | 2.20E-04 | **** | 4.11E-01 | |
| 1 | 1848.19 | 72 | 79 | 1.39 | 3699.58 | 3690 | 16 | 1.49E-03 | 58.8 | 3.99E-01 | |

Flags: "T" = Tentatively associated

Summary of Nuclide Activity

| | | |
|---|----|--------|
| Total number of lines in spectrum | 20 | |
| Number of unidentified lines | 14 | |
| Number of lines tentatively identified by NID | 6 | 30.00% |

Nuclide Type : natural

| Nuclide | Hlife | Decay | Wtd Mean Uncorrected pCi/L | Wtd Mean Decay Corr pCi/L | Decay Corr 2-Sigma Error | 2-Sigma %Error | Flags |
|------------------|-----------|-------|----------------------------------|---------------------------------|-----------------------------|-------------------|-------|
| K-40 | 1.28E+09Y | 1.00 | 3.780E+01 | 3.780E+01 | 3.491E+01 | 92.37 | |
| RA-226 | 1600.00Y | 1.00 | 3.177E+01 | 3.177E+01 | 5.281E+01 | 166.23 | |
| TH-228 | 1.91Y | 1.01 | 2.789E+00 | 2.815E+00 | 4.914E+00 | 174.58 | |
| TH-232 | 1.41E+10Y | 1.00 | 2.440E+00 | 2.440E+00 | 5.617E+00 | 230.24 | |
| Total Activity : | | | 7.479E+01 | 7.482E+01 | | | |

Grand Total Activity : 7.479E+01 7.482E+01

Flags: "K" = Keyline not found "M" = Manually accepted
"E" = Manually edited "A" = Nuclide specific abn. limit

Interference Report

| Interfering | | Interfered | |
|-------------|--------|------------|--------|
| Nuclide | Line | Nuclide | Line |
| TH-232 | 911.07 | AC-228 | 911.07 |

Combined Activity-MDA Report

---- Identified Nuclides ----

| | | | | | |
|--------|-----------|-----------|-----------|-----------|-------|
| K-40 | 3.780E+01 | 3.491E+01 | 2.973E+01 | 0.000E+00 | 1.271 |
| RA-226 | 3.177E+01 | 5.281E+01 | 7.122E+01 | 0.000E+00 | 0.446 |
| TH-228 | 2.815E+00 | 4.914E+00 | 5.408E+00 | 0.000E+00 | 0.521 |
| TH-232 | 2.440E+00 | 5.617E+00 | 1.122E+01 | 0.000E+00 | 0.217 |

---- Non-Identified Nuclides ----

| Nuclide | Key-Line Activity (pCi/L) | K.L. Ided | Act error | MDA (pCi/L) | MDA error | Act/MDA |
|---------|---------------------------------|--------------|-----------|---------------------|-----------|---------|
| BE-7 | -5.548E+00 | | 1.761E+01 | 2.881E+01 | 0.000E+00 | -0.193 |
| NA-24 | -4.009E-02 | | 3.453E-02 | Half-Life too short | | |
| CR-51 | -2.354E+01 | | 1.934E+01 | 3.107E+01 | 0.000E+00 | -0.758 |
| MN-54 | -1.873E-01 | | 1.882E+00 | 3.115E+00 | 0.000E+00 | -0.060 |
| CO-57 | -6.493E-01 | | 1.843E+00 | 2.966E+00 | 0.000E+00 | -0.219 |
| CO-58 | -2.785E+00 | | 2.003E+00 | 3.117E+00 | 0.000E+00 | -0.893 |
| FE-59 | 4.234E+00 | | 4.124E+00 | 7.071E+00 | 0.000E+00 | 0.599 |
| CO-60 | -2.412E-01 | | 1.930E+00 | 3.141E+00 | 0.000E+00 | -0.077 |
| ZN-65 | 4.878E+00 | | 4.961E+00 | 7.237E+00 | 0.000E+00 | 0.674 |
| SE-75 | 2.740E-01 | | 2.538E+00 | 4.221E+00 | 0.000E+00 | 0.065 |
| SR-85 | 2.694E+01 | | 2.438E+00 | 4.724E+00 | 0.000E+00 | 5.704 |
| Y-88 | 1.252E+00 | | 2.453E+00 | 3.519E+00 | 0.000E+00 | 0.356 |
| NB-94 | 7.539E-01 | | 1.848E+00 | 3.073E+00 | 0.000E+00 | 0.245 |
| NB-95 | -1.858E-02 | | 2.043E+00 | 3.340E+00 | 0.000E+00 | -0.006 |
| ZR-95 | -8.566E-01 | | 3.719E+00 | 6.045E+00 | 0.000E+00 | -0.142 |
| MO-99 | 8.094E+01 | | 1.494E+02 | 2.486E+02 | 0.000E+00 | 0.326 |
| RU-103 | 6.165E-01 | | 2.205E+00 | 3.646E+00 | 0.000E+00 | 0.169 |
| RU-106 | -2.846E+00 | | 1.785E+01 | 2.913E+01 | 0.000E+00 | -0.098 |
| AG-110m | -8.053E-02 | | 1.877E+00 | 3.098E+00 | 0.000E+00 | -0.026 |
| SN-113 | 8.111E-01 | | 2.531E+00 | 4.138E+00 | 0.000E+00 | 0.196 |
| SB-124 | -1.894E+00 | | 5.130E+00 | 3.376E+00 | 0.000E+00 | -0.561 |
| SB-125 | -4.028E+00 | | 5.213E+00 | 8.500E+00 | 0.000E+00 | -0.474 |
| TE-129M | 1.471E+01 | | 2.492E+01 | 4.169E+01 | 0.000E+00 | 0.353 |
| I-131 | 1.743E+00 | | 4.225E+00 | 6.949E+00 | 0.000E+00 | 0.251 |
| BA-133 | 6.060E+00 | | 3.122E+00 | 4.539E+00 | 0.000E+00 | 1.335 |
| CS-134 | 3.805E+00 | | 4.082E+00 | 3.584E+00 | 0.000E+00 | 1.062 |
| CS-136 | 1.091E-01 | | 2.921E+00 | 4.758E+00 | 0.000E+00 | 0.023 |
| CS-137 | 1.969E+00 | | 2.325E+00 | 3.511E+00 | 0.000E+00 | 0.561 |
| CE-139 | 1.739E+00 | | 1.862E+00 | 3.111E+00 | 0.000E+00 | 0.559 |
| BA-140 | -4.305E-01 | | 1.085E+01 | 1.772E+01 | 0.000E+00 | -0.024 |
| LA-140 | 2.895E+00 | | 3.466E+00 | 5.904E+00 | 0.000E+00 | 0.490 |
| CE-141 | 5.288E+00 | | 4.248E+00 | 6.148E+00 | 0.000E+00 | 0.860 |
| CE-144 | -2.559E+00 | | 1.613E+01 | 2.282E+01 | 0.000E+00 | -0.112 |
| EU-152 | -1.464E+01 | | 7.222E+00 | 9.396E+00 | 0.000E+00 | -1.558 |
| EU-154 | 7.743E-02 | | 3.798E+00 | 6.144E+00 | 0.000E+00 | 0.013 |
| AC-228 | 1.011E+00 | | 1.133E+01 | 1.203E+01 | 0.000E+00 | 0.084 |
| U-235 | 2.219E+01 | | 1.774E+01 | 2.385E+01 | 0.000E+00 | 0.930 |
| U-238 | 1.682E+02 | | 2.456E+02 | 3.573E+02 | 0.000E+00 | 0.471 |
| AM-241 | 2.344E+01 | | 1.810E+01 | 2.642E+01 | 0.000E+00 | 0.887 |

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A,13L28821-8      ,06/09/2006 04:09,05/30/2006 10:55,    2.850E+00,WG L28821-8 DR
B,13L28821-8      ,LIBD      ,06/07/2006 09:34,1335L090904
C,K-40      ,YES,    3.780E+01,    3.491E+01,    2.973E+01,,    1.271
C,RA-226    ,YES,    3.177E+01,    5.281E+01,    7.122E+01,,    0.446
C,TH-228    ,YES,    2.815E+00,    4.914E+00,    5.408E+00,,    0.521
C,TH-232    ,YES,    2.440E+00,    5.617E+00,    1.122E+01,,    0.217
C,BE-7      ,NO ,    -5.548E+00,    1.761E+01,    2.881E+01,,    -0.193
C,CR-51     ,NO ,    -2.354E+01,    1.934E+01,    3.107E+01,,    -0.758
C,MN-54     ,NO ,    -1.873E-01,    1.882E+00,    3.115E+00,,    -0.060
C,CO-57     ,NO ,    -6.493E-01,    1.843E+00,    2.966E+00,,    -0.219
C,CO-58     ,NO ,    -2.785E+00,    2.003E+00,    3.117E+00,,    -0.893
C,FE-59     ,NO ,    4.234E+00,    4.124E+00,    7.071E+00,,    0.599
C,CO-60     ,NO ,    -2.412E-01,    1.930E+00,    3.141E+00,,    -0.077
C,ZN-65     ,NO ,    4.878E+00,    4.961E+00,    7.237E+00,,    0.674
C,SE-75     ,NO ,    2.740E-01,    2.538E+00,    4.221E+00,,    0.065
C,SR-85     ,NO ,    2.694E+01,    2.438E+00,    4.724E+00,,    5.704
C,Y-88      ,NO ,    1.252E+00,    2.453E+00,    3.519E+00,,    0.356
C,NB-94     ,NO ,    7.539E-01,    1.848E+00,    3.073E+00,,    0.245
C,NB-95     ,NO ,    -1.858E-02,    2.043E+00,    3.340E+00,,    -0.006
C,ZR-95     ,NO ,    -8.566E-01,    3.719E+00,    6.045E+00,,    -0.142
C,MO-99     ,NO ,    8.094E+01,    1.494E+02,    2.486E+02,,    0.326
C,RU-103    ,NO ,    6.165E-01,    2.205E+00,    3.646E+00,,    0.169
C,RU-106    ,NO ,    -2.846E+00,    1.785E+01,    2.913E+01,,    -0.098
C,AG-110m   ,NO ,    -8.053E-02,    1.877E+00,    3.098E+00,,    -0.026
C,SN-113    ,NO ,    8.111E-01,    2.531E+00,    4.138E+00,,    0.196
C,SB-124    ,NO ,    -1.894E+00,    5.130E+00,    3.376E+00,,    -0.561
C,SB-125    ,NO ,    -4.028E+00,    5.213E+00,    8.500E+00,,    -0.474
C,TE-129M   ,NO ,    1.471E+01,    2.492E+01,    4.169E+01,,    0.353
C,I-131     ,NO ,    1.743E+00,    4.225E+00,    6.949E+00,,    0.251
C,BA-133    ,NO ,    6.060E+00,    3.122E+00,    4.539E+00,,    1.335
C,CS-134    ,NO ,    3.805E+00,    4.082E+00,    3.584E+00,,    1.062
C,CS-136    ,NO ,    1.091E-01,    2.921E+00,    4.758E+00,,    0.023
C,CS-137    ,NO ,    1.969E+00,    2.325E+00,    3.511E+00,,    0.561
C,CE-139    ,NO ,    1.739E+00,    1.862E+00,    3.111E+00,,    0.559
C,BA-140    ,NO ,    -4.305E-01,    1.085E+01,    1.772E+01,,    -0.024
C,LA-140    ,NO ,    2.895E+00,    3.466E+00,    5.904E+00,,    0.490
C,CE-141    ,NO ,    5.288E+00,    4.248E+00,    6.148E+00,,    0.860
C,CE-144    ,NO ,    -2.559E+00,    1.613E+01,    2.282E+01,,    -0.112
C,EU-152    ,NO ,    -1.464E+01,    7.222E+00,    9.396E+00,,    -1.558
C,EU-154    ,NO ,    7.743E-02,    3.798E+00,    6.144E+00,,    0.013
C,AC-228    ,NO ,    1.011E+00,    1.133E+01,    1.203E+01,,    0.084
C,U-235     ,NO ,    2.219E+01,    1.774E+01,    2.385E+01,,    0.930
C,U-238     ,NO ,    1.682E+02,    2.456E+02,    3.573E+02,,    0.471
C,AM-241    ,NO ,    2.344E+01,    1.810E+01,    2.642E+01,,    0.887

```



2508 Quality Lane
Knoxville, TN 37931
865-690-6819 (Phone)

Work Order #: L28990

Exelon

June 23, 2006



**TELEDYNE
BROWN ENGINEERING, INC.**

A Teledyne Technologies Company
2508 Quality Lane
Knoxville, TN 37931-3133

Kathy Shaw
Conestoga-Rovers & Associates
45 Farmington Valley Road
Plainville CT 06062

**Case Narrative - L28990
EX001-3ESPDRES-06**

06/23/2006 08:13

Sample Receipt

The following samples were received on June 19, 2006 in good condition, unless otherwise noted.

Cross Reference Table

| Client ID | Laboratory ID | Station ID(if applicable) |
|-----------------------------|---------------|---------------------------|
| WG-DN-DSP-147-053006-JH-016 | L28990-1 | |

Analytical Method Cross Reference Table

| Radiological Parameter | TBE Knoxville Method | Reference Method |
|------------------------|----------------------|------------------|
| Gamma Spectrometry | TBE-2007 | EPA 901.1 |
| H-3 | TBE-2010 | EPA 906.0 |
| TOTAL SR | TBE-2018 | EPA 905.0 |



Case Narrative - L28990
EX001-3ESPDRES-06

06/23/2006 08:13

H-3

Quality Control

Quality control samples were analyzed as WG4160.

Method Blank

All blanks were within acceptance limits, unless otherwise noted.

Laboratory Control Sample

All laboratory control samples were within acceptance limits, unless otherwise noted.

Duplicate Sample

Duplicates were analyzed for the following samples. All duplicate results were within acceptance limits, unless otherwise noted.

| <u>Client ID</u> | <u>Laboratory ID</u> | <u>QC Sample #</u> |
|-----------------------------|----------------------|--------------------|
| WG-DN-DSP-147-053006-JH-016 | L28990-1 | WG4160-3 |

TOTAL SR

Quality Control

Quality control samples were analyzed as WG4170.

Method Blank

All blanks were within acceptance limits, unless otherwise noted.

Laboratory Control Sample

All laboratory control samples were within acceptance limits, unless otherwise noted.

Duplicate Sample

Duplicates were analyzed for the following samples. All duplicate results were within acceptance limits, unless otherwise noted.

| <u>Client ID</u> | <u>Laboratory ID</u> | <u>QC Sample #</u> |
|---------------------------|----------------------|--------------------|
| RB-TMI-RB7-061206-MMM-062 | L28973-1 | WG4170-3 |



Case Narrative - L28990
EX001-3ESPDRES-06

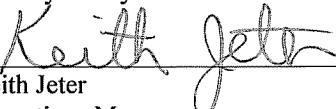
06/23/2006 08:13

Certification

This is to certify that Teledyne Brown Engineering - Environmental Services, located at 2508 Quality Lane, Knoxville, Tennessee, 37931, has analyzed, tested and documented samples as specified in the applicable purchase order.

This also certifies that requirements of applicable codes, standards and specifications have been fully met and that any quality assurance documentation which verified conformance to the purchase order is on file and may be examined upon request.

I hereby certify that the above statements are true and correct.



Keith Jeter
Operations Manager

Sample Receipt Summary

06/19/06 11:22

Teledyne Brown Engineering
Sample Receipt Verification/Variance Report

L28990 6 of 24

SR #: SR08963

Client: Exelon

Project #: EX001-3ESPDRES-06

LIMS #: L28990

Initiated By: RCHARLES

Init Date: 06/19/06

Receive Date: 06/19/06

Notification of Variance

Person Notified:

Contacted By:

Notify Date:

Notify Method:

Notify Comment:

Client Response

Person Responding:

Response Date:

Response Method:

Response Comment

| Criteria | Yes | No | NA | Comment |
|--|-----|----|----|---------|
| 1 Shipping container custody seals present and intact. | | | NA | |
| 2 Sample container custody seals present and intact. | | | NA | |
| 3 Sample containers received in good condition | | | Y | |
| 4 Chain of custody received with samples | | | Y | |
| 5 All samples listed on chain of custody received | | | Y | |
| 6 Sample container labels present and legible. | | | Y | |
| 7 Information on container labels correspond with chain of custody | | | Y | |
| 8 Sample(s) properly preserved and in appropriate container(s) | | | NA | PHC 2 |
| 9 Other (Describe) | | | NA | |

| | | | | | | | | | |
|---|---------|------|---|---------------|--|---|---|------------------------------|-----------|
| CONESTOGA-ROVERS & ASSOCIATES 8615 W. Bryn Mawr Avenue Chicago, Illinois 60631 (773)380-9933 phone (773)380-6421 fax | | | SHIPPED TO (Laboratory Name): Teledyne Brown | | | | | | |
| CHAIN-OF-CUSTODY RECORD | | | REFERENCE NUMBER: 45136-23 | | PROJECT NAME: Exelon-Dresden | | | | |
| SAMPLER'S SIGNATURE: <i>[Signature]</i> | | | PRINTED NAME: John Hoffmann | | PARAMETERS <i>Tritium</i> <i>Sr-90</i> <i>Gamma Spec</i> | | | REMARKS | |
| SEQ. No. | DATE | TIME | SAMPLE IDENTIFICATION No. | SAMPLE MATRIX | No. OF CONTAINERS | | | | |
| 1 | 5/30/06 | 0940 | WG-DN-DSP-147-053006- JH-016 | WATER | 2 | X | X | X | |
| 2 | 1350 | | WG-DN-DSP-148-053006- JH-017 | | | | | | Disregard |
| 3 | 1630 | | WG-DN-DSP-156-053006- JH-018 | | | | | | Disregard |
| TOTAL NUMBER OF CONTAINERS | | | | | 2 | | | | |
| RELINQUISHED BY: <i>[Signature]</i> | | | DATE: 5/30/06 TIME: 18:30 | | RECEIVED BY: <i>[Signature]</i> | | | DATE: 5-20-06 TIME: 18:35 | |
| RELINQUISHED BY: <i>[Signature]</i> | | | DATE: TIME: | | RECEIVED BY: | | | DATE: TIME: | |
| RELINQUISHED BY: | | | DATE: TIME: | | RECEIVED BY: | | | DATE: TIME: | |
| METHOD OF SHIPMENT: | | | | | AIR BILL No. | | | | |
| White - Fully Executed Copy Yellow - Receiving Laboratory Copy Pink - Shipper Copy Goldenrod - Sampler Copy | | | SAMPLE TEAM: <i>John Hoffmann</i> <i>Kendall Rannaoja</i> | | RECEIVED FOR LABORATORY BY: <i>Pat Marshall</i> DATE: 6/19/06 TIME: 0900 | | | | |

6/19/06

TELEDYNE BROWN ENGINEERING
2508 Quality Lane
Knoxville, TN 37931-3133

ACKNOWLEDGEMENT

This is not an invoice

Kathy Shaw
Conestoga-Rovers & Associates
45 Farmington Valley Road
Plainville, CT 06062

June 19, 2006

The following sample(s) were received at Teledyne Brown Engineering Knoxville laboratory on June 19, 2006. The sample(s) have been scheduled for the analyses listed below and the report is scheduled for completion by June 21, 2006. Please review the following login information and pricing. Contact me if anything is incorrect or you have questions about the status of your sample(s).

Thank you for choosing Teledyne Brown Engineering for your analytical needs.

Sincerely,
Rebecca Charles
Project Manager
(865) 934-0379

Project ID: EX001-3ESPDRES-06
P.O. #: 00411203
Release #:
Contract#: 00411203
Kathy Shaw, FAX#: 860-747-1900, larry.walton@exeloncorp.com

| Client ID/ Station | Laboratory ID Analysis | Vol/Units Price | Start Collect Date/Time | End Collect Date/Time |
|-----------------------------|---------------------------|--------------------|----------------------------|--------------------------|
| WG-DN-DSP-147-053006-JH-016 | L28990-1 | | 05/30/06:0940 | |
| WG | GELI | 162.00 | | |
| WG | H-3 | 162.00 | | |
| WG | SR-90 (FAST) | 140.00 | | |

End of document

Internal Chain of Custody

Internal Chain of Custody

Sample # L28990-1 Containernum 1

Prod Analyst
H-3 EJ
SR-90 (FAST) CJF
GELI DW

| Relinquish Date | Relinquish By | | Received By |
|------------------|---------------|------------------|------------------------------|
| 06/19/2006 00:00 | | | 099999 Sample Custodian |
| 06/20/2006 09:33 | 099999 | Sample Custodian | 029964 Erin Jenkins |
| 06/20/2006 09:35 | 029964 | Erin Jenkins | 099999 Sample Custodian |

Sample # L28990-1 Containernum 2

Prod Analyst
H-3 EJ
SR-90 (FAST) CJF
GELI DW

| Relinquish Date | Relinquish By | | Received By |
|------------------|---------------|------------------|------------------------------|
| 06/19/2006 00:00 | | | 099999 Sample Custodian |
| 06/20/2006 09:33 | 099999 | Sample Custodian | 029964 Erin Jenkins |
| 06/20/2006 10:13 | 029964 | Erin Jenkins | 099999 Sample Custodian |

06/23/06

Teledyne Brown Engineering
Internal Chain of Custody
Supplemental Sheet

L28990 11 of 24
Page 1 of 1

L28990

| | | | | |
|---------------------|--------------|-----------------------------|----------------|-------------|
| L28990-1 | WG | WG-DN-DSP-147-053006-JH-016 | | |
| <u>Process step</u> | <u>Prod</u> | | <u>Analyst</u> | <u>Date</u> |
| Login | | | RCHARLES | 06/19/06 |
| Aliquot | GELI | | DW | 06/19/06 |
| Aliquot | H-3 | | EJ | 06/20/06 |
| Aliquot | SR-90 (FAST) | | CJF | 06/21/06 |
| Count Room | GELI | | ILL | 06/19/06 |
| Count Room | H-3 | | KOJ | 06/20/06 |
| Count Room | SR-90 (FAST) | | KOJ | 06/22/06 |

Analytical Results Summary

Report of Analysis

06/23/06 08:20

L28990

Conestoga-Rovers & Associates

EX001-3ESPDRES-06

Kathy Shaw

| | | |
|---|---------------------------------|---------------------------|
| Sample ID: WG-DN-DSP-147-053006-JH-016 | Collect Start: 05/30/2006 09:40 | Matrix: Ground Water (WG) |
| Station: | Collect Stop: | Volume: |
| Description: | Receive Date: 06/19/2006 | % Moisture: |
| LIMS Number: L28990-1 | | |

| Radionuclide | SOP# | Activity Conc | Uncertainty 2 Sigma | MDC | Units | Run # | Aliquot Volume | Aliquot Units | Reference Date | Count Date | Count Time | Count Units | Flag Values |
|--------------|------|---------------|---------------------|-----------------|-------|-------|----------------|---------------|----------------|------------|------------|-------------|-------------|
| H-3 | 2010 | -4.38E+00 | 9.46E+01 | 1.56E+02 | pCi/L | | 10 | ml | | 06/20/06 | 60 | M | U |
| TOTAL SR | 2018 | 8.95E-01 | 7.39E-01 | 1.36E+00 | pCi/L | | 450 | ml | 05/30/06 09:40 | 06/22/06 | 120 | M | U |
| MN-54 | 2007 | -2.91E-01 | 2.92E+00 | 4.71E+00 | pCi/L | | 3058.46 | ml | 05/30/06 09:40 | 06/19/06 | 14400 | Sec | U |
| CO-58 | 2007 | 6.29E-01 | 3.24E+00 | 5.35E+00 | pCi/L | | 3058.46 | ml | 05/30/06 09:40 | 06/19/06 | 14400 | Sec | U |
| FE-59 | 2007 | 4.42E+00 | 7.28E+00 | 1.24E+01 | pCi/L | | 3058.46 | ml | 05/30/06 09:40 | 06/19/06 | 14400 | Sec | U |
| CO-60 | 2007 | 2.76E+00 | 3.52E+00 | 5.97E+00 | pCi/L | | 3058.46 | ml | 05/30/06 09:40 | 06/19/06 | 14400 | Sec | U |
| ZN-65 | 2007 | 3.89E+00 | 7.70E+00 | 1.13E+01 | pCi/L | | 3058.46 | ml | 05/30/06 09:40 | 06/19/06 | 14400 | Sec | U |
| NB-95 | 2007 | 1.97E+00 | 3.25E+00 | 5.53E+00 | pCi/L | | 3058.46 | ml | 05/30/06 09:40 | 06/19/06 | 14400 | Sec | U |
| ZR-95 | 2007 | -3.75E-01 | 5.58E+00 | 9.10E+00 | pCi/L | | 3058.46 | ml | 05/30/06 09:40 | 06/19/06 | 14400 | Sec | U |
| CS-134 | 2007 | 5.29E+00 | 5.91E+00 | 5.08E+00 | pCi/L | | 3058.46 | ml | 05/30/06 09:40 | 06/19/06 | 14400 | Sec | U |
| CS-137 | 2007 | 3.38E+00 | 3.08E+00 | 5.40E+00 | pCi/L | | 3058.46 | ml | 05/30/06 09:40 | 06/19/06 | 14400 | Sec | U |
| BA-140 | 2007 | 4.93E+00 | 2.77E+01 | 4.59E+01 | pCi/L | | 3058.46 | ml | 05/30/06 09:40 | 06/19/06 | 14400 | Sec | U |
| LA-140 | 2007 | -5.85E+00 | 9.32E+00 | 1.43E+01 | pCi/L | | 3058.46 | ml | 05/30/06 09:40 | 06/19/06 | 14400 | Sec | U |

Flag Values

U = Compound/Analyte not detected or less than 3 sigma
+ = Activity concentration exceeds MDC and 3 sigma; peak identified(gamma only)
U* = Compound/Analyte not detected. Peak not identified, but forced activity concentration exceeds MDC and 3 sigma
High = Activity concentration exceeds customer reporting value
Spec = MDC exceeds customer technical specification
L = Low recovery
H = High recovery

Bolded text indicates reportable value.

No = Peak not identified in gamma spectrum
Yes = Peak identified in gamma spectrum
**** Results are reported on an as received basis unless otherwise noted

MDC - Minimum Detectable Concentration

QC Results Summary

QC Summary Report

for L28990

6/23/2006

8:18:01AM



H-3

Method Blank Summary

| <u>TBE Sample ID</u> | <u>Radionuclide</u> | <u>Matrix</u> | <u>Count Date/Time</u> | <u>Blank Result</u> | <u>Units</u> | <u>Qualifier</u> | <u>P/F</u> |
|----------------------|---------------------|---------------|------------------------|---------------------|--------------|------------------|------------|
| WG4160-1 | H-3 | WO | 06/20/2006 19:15 | < 1.570E+00 | pCi/Total | U | P |

LCS Sample Summary

| <u>TBE Sample ID</u> | <u>Radionuclide</u> | <u>Matrix</u> | <u>Count Date/Time</u> | <u>Spike Value</u> | <u>LCS Result</u> | <u>Units</u> | <u>Spike Recovery</u> | <u>Range</u> | <u>Qualifier</u> | <u>P/F</u> |
|----------------------|---------------------|---------------|------------------------|--------------------|-------------------|--------------|-----------------------|--------------|------------------|------------|
| WG4160-2 | H-3 | WO | 06/20/2006 20:19 | 5.05E+002 | 4.960E+02 | pCi/Total | 98.3 | 70-130 | + | P |

Spike ID: 3H-041706-1

Spike conc: 5.05E+002

Spike Vol: 1.00E+000

Duplicate Summary

| <u>TBE Sample ID</u> | <u>Radionuclide</u> | <u>Matrix</u> | <u>Count Date/Time</u> | <u>Original Result</u> | <u>DUP Result</u> | <u>Units</u> | <u>RPD</u> | <u>Range</u> | <u>Qualifier</u> | <u>P/F</u> |
|----------------------|---------------------|---------------|------------------------|------------------------|-------------------|--------------|------------|--------------|------------------|------------|
| WG4160-3 L28990-1 | H-3 | WG | 06/22/2006 11:13 | < 1.560E+02 | < 1.880E+02 | pCi/L | | <30 | ** | NE |

L28990

H-3

Associated Samples for

SAMPLENUM

L28990-1

WG4160CLIENTID

WG-DN-DSP-147-053006-JH-016

+ Positive Result
U Compound/analyte was analyzed, peak not identified and/or not detected above MDC
* < 5 times the MDC are not evaluated
** Nuclide not detected
*** Spiking level < 5 times activity
P Pass
F Fail
NE Not evaluated

Page: 1

L28990 15 OF 24

QC Summary Report

for L28990

6/23/2006

8:18:01AM



TOTAL SR

Method Blank Summary

| <u>TBE Sample ID</u> | <u>Radionuclide</u> | <u>Matrix</u> | <u>Count Date/Time</u> | <u>Blank Result</u> | <u>Units</u> | <u>Qualifier</u> | <u>P/F</u> |
|----------------------|---------------------|---------------|------------------------|---------------------|--------------|------------------|------------|
| WG4170-1 | TOTAL SR | WO | 06/22/2006 16:17 | < 6.870E-01 | pCi/Total | U | P |

LCS Sample Summary

| <u>TBE Sample ID</u> | <u>Radionuclide</u> | <u>Matrix</u> | <u>Count Date/Time</u> | <u>Spike Value</u> | <u>LCS Result</u> | <u>Units</u> | <u>Spike Recovery</u> | <u>Range</u> | <u>Qualifier</u> | <u>P/F</u> |
|----------------------|---------------------|---------------|------------------------|--------------------|-------------------|--------------|-----------------------|--------------|------------------|------------|
| WG4170-2 | TOTAL SR | WO | 06/22/2006 16:17 | 5.84E+001 | 6.510E+01 | pCi/Total | 111.5 | 70-130 | + | P |

Spike ID: 90SR-011905

Spike conc: 2.34E+002

Spike Vol: 2.50E-001

Duplicate Summary

| <u>TBE Sample ID</u> | <u>Radionuclide</u> | <u>Matrix</u> | <u>Count Date/Time</u> | <u>Original Result</u> | <u>DUP Result</u> | <u>Units</u> | <u>RPD</u> | <u>Range</u> | <u>Qualifier</u> | <u>P/F</u> |
|----------------------|---------------------|---------------|------------------------|------------------------|-------------------|--------------|------------|--------------|------------------|------------|
| WG4170-3 L28973-1 | TOTAL SR | WG | 06/22/2006 16:17 | < 1.570E+00 | < 1.030E+00 | pCi/L | | <30 | ** | NE |

+ Positive Result
U Compound/analyte was analyzed, peak not identified and/or not detected above MDC
* < 5 times the MDC are not evaluated
** Nuclide not detected
*** Spiking level < 5 times activity
P Pass
F Fail
NE Not evaluated

Page: 2

L28990 16 OF 24

Raw Data

Work Order: L28990

Customer: Exelon

Page: 1

Nuclide: H-3

Project : EX001-3ESPDRES-06

| Sample ID | Run | Analysis | Reference | Volume/ | Scavenge | Milking | Mount | Count | Counter | Total | Sample | Bkg | Bkg | Eff. | Decay & Ingrowth | Analyst |
|---|-----|----------|-----------|---------|-----------|-----------|--------|----------|-----------|-------|--------|----------|--------|----------|------------------|---------|
| Client ID | # | | Date/time | Aliquot | Date/time | Date/time | Weight | Recovery | Date/time | ID | counts | dt (min) | counts | dt (min) | Factor | |
| L28990-1 | | H-3 | | | | | 0 | | 20-jun-06 | LS7 | 83 | 60 | 1.41 | 60 | .207 | EJ |
| WG-DN-DSP-147-053006-J | | | | 10 ml | | | | | 20:37 | | | | | | | |
| Activity: -4.38E+00 Error: 9.46E+01 MDC: 1.56E+02 * | | | | | | | | | | | | | | | | |

Raw Data Sheet (rawdata)
Jun 23 2006, 08:34 am

Work Order: L28990


Customer: Exelon

Page: 2

Nuclide: SR-90 (FAST)

Project : EX001-3ESPDRES-06

| Sample ID | Run | Analysis | Reference | Volume/ | Scavenge | Milking | Mount | Count | Counter | Total | Sample | Bkg | Bkg | Decay & | Eff. | Ingrowth | Analyst |
|--|-----|----------|-----------|---------|-----------|-----------|--------|----------|-----------|-------|--------|----------|--------|----------|--------|----------|---------|
| Client ID | # | | Date/time | Aliquot | Date/time | Date/time | Weight | Recovery | Date/time | ID | counts | dt (min) | counts | dt (min) | Factor | | |
| L28990-1 | | TOTAL SR | 30-may-06 | | 22-jun-06 | | 0 | | 22-jun-06 | X4D | 133 | 120 | 340 | 400 | .353 | .998 | CJF |
| WG-DN-DSP-147-053006-J | | | 09:40 | 450 ml | 11:45 | | | 81.99 | 16:17 | | | | | | | | |
| Activity: 8.95E-01 Error: 7.39E-01 MDC: 1.36E+00 * | | | | | | | | | | | | | | | | | |

Sec. Review: Analyst: LIMS: 

=====

VAX/VMS Teledyne Brown Eng. Laboratory Gamma Report: 19-JUN-2006 17:33:09.01
 TBE04 P-40312B HpGe ***** Aquisition Date/Time: 19-JUN-2006 13:32:59.12

LIMS No., Customer Name, Client ID: WG L28990-1 EXELON/DRESDEN

| | | | |
|---------------|-----------------|---------------|-----------------------|
| Sample ID | : 04L28990-1 | Smple Date: | 30-MAY-2006 09:40:00. |
| Sample Type | : WG | Geometry | : 043L082004 |
| Quantity | : 3.05850E+00 L | BKGFILE | : 04BG060306MT |
| Start Channel | : 90 | Energy Tol | : 1.00000 |
| End Channel | : 4090 | Pk Srch Sens: | 5.00000 |
| MDA Constant | : 0.00 | Library Used: | LIBD |
| | | Real Time | : 0 04:00:02.39 |
| | | Live time | : 0 04:00:00.00 |

| Pk | It | Energy | Area | Bkgnd | FWHM | Channel | %Eff | Cts/Sec | %Err | Fit |
|----|----|----------|------|-------|-------|---------|----------|----------|-------|----------|
| 1 | 1 | 66.20* | 115 | 350 | 0.80 | 133.07 | 6.59E-01 | 8.00E-03 | 29.5 | 6.86E+00 |
| 2 | 1 | 140.14 | 60 | 383 | 1.30 | 280.86 | 2.04E+00 | 4.16E-03 | 60.4 | 3.46E+00 |
| 3 | 1 | 198.49* | 49 | 248 | 1.05 | 397.51 | 1.86E+00 | 3.42E-03 | 64.8 | 5.48E-01 |
| 4 | 1 | 238.84* | 27 | 221 | 1.36 | 478.18 | 1.68E+00 | 1.86E-03 | 110.5 | 3.04E+00 |
| 5 | 1 | 295.39 | 74 | 102 | 1.32 | 591.22 | 1.45E+00 | 5.11E-03 | 25.9 | 6.71E-01 |
| 6 | 1 | 352.62* | 31 | 172 | 1.59 | 705.64 | 1.28E+00 | 2.13E-03 | 99.4 | 2.42E+00 |
| 7 | 1 | 583.45* | 26 | 56 | 2.03 | 1167.12 | 8.77E-01 | 1.81E-03 | 67.5 | 1.54E+00 |
| 8 | 1 | 596.11 | 68 | 98 | 2.05 | 1192.44 | 8.63E-01 | 4.75E-03 | 32.3 | 7.49E-01 |
| 9 | 1 | 609.50* | 61 | 116 | 1.88 | 1219.20 | 8.48E-01 | 4.24E-03 | 44.0 | 1.03E+00 |
| 10 | 1 | 1120.30* | 25 | 33 | 1.57 | 2240.55 | 5.27E-01 | 1.72E-03 | 65.6 | 1.12E+00 |
| 11 | 1 | 1293.74 | 98 | 83 | 25.77 | 2587.36 | 4.71E-01 | 6.81E-03 | 27.5 | 2.57E+00 |

Flag: "*" = Peak area was modified by background subtraction

Nuclide Line Activity Report

Nuclide Type: natural

| Nuclide | Energy | Area | %Abn | %Eff | Uncorrected pCi/L | Decay Corr pCi/L | 2-Sigma %Error |
|---------|--------|-------|--------|-----------|----------------------|---------------------|-------------------|
| TH-228 | 238.63 | 27 | 44.60* | 1.679E+00 | 2.193E+00 | 2.237E+00 | 220.96 |
| | 240.98 | ----- | 3.95 | 1.669E+00 | ----- | Line Not Found | ----- |

Flag: "*" = Keyline

Summary of Nuclide Activity

Page : 2

Sample ID : 04L28990-1

Acquisition date : 19-JUN-2006 13:32:59

| | | |
|---|----|--------|
| Total number of lines in spectrum | 11 | |
| Number of unidentified lines | 9 | |
| Number of lines tentatively identified by NID | 2 | 18.18% |

Nuclide Type : natural

| Nuclide | Hlife | Decay | Uncorrected pCi/L | Decay Corr pCi/L | Decay Corr 2-Sigma Error | 2-Sigma %Error | Flags |
|------------------|-------|-------|----------------------|---------------------|-----------------------------|-------------------|-------|
| TH-228 | 1.91Y | 1.02 | 2.193E+00 | 2.237E+00 | 4.943E+00 | 220.96 | |
| Total Activity : | | | 2.193E+00 | 2.237E+00 | | | |

| | | |
|------------------------|-----------|-----------|
| Grand Total Activity : | 2.193E+00 | 2.237E+00 |
|------------------------|-----------|-----------|

Flags: "K" = Keyline not found

"M" = Manually accepted

"E" = Manually edited

"A" = Nuclide specific abn. limit

Unidentified Energy Lines

Page : 3

Sample ID : 04L28990-1

Acquisition date : 19-JUN-2006 13:32:59

| It | Energy | Area | Bkgnd | FWHM | Channel | Left | Pw | Cts/Sec | %Err | %Eff | Flags |
|----|---------|------|-------|-------|---------|------|----|----------|------|----------|-------|
| 1 | 66.20 | 115 | 350 | 0.80 | 133.07 | 129 | 7 | 8.00E-03 | 59.1 | 6.59E-01 | |
| 1 | 140.14 | 60 | 383 | 1.30 | 280.86 | 276 | 9 | 4.16E-03 | **** | 2.04E+00 | |
| 1 | 198.49 | 49 | 248 | 1.05 | 397.51 | 394 | 8 | 3.42E-03 | **** | 1.86E+00 | |
| 1 | 295.39 | 74 | 102 | 1.32 | 591.22 | 588 | 7 | 5.11E-03 | 51.8 | 1.45E+00 | |
| 1 | 352.62 | 31 | 172 | 1.59 | 705.64 | 698 | 13 | 2.13E-03 | **** | 1.28E+00 | |
| 1 | 583.45 | 26 | 56 | 2.03 | 1167.12 | 1163 | 10 | 1.81E-03 | **** | 8.77E-01 | T |
| 1 | 596.11 | 68 | 98 | 2.05 | 1192.44 | 1186 | 13 | 4.75E-03 | 64.5 | 8.63E-01 | |
| 1 | 609.50 | 61 | 116 | 1.88 | 1219.20 | 1212 | 14 | 4.24E-03 | 88.1 | 8.48E-01 | |
| 1 | 1120.30 | 25 | 33 | 1.57 | 2240.55 | 2230 | 19 | 1.72E-03 | **** | 5.27E-01 | |
| 1 | 1293.74 | 98 | 83 | 25.77 | 2587.36 | 2581 | 30 | 6.81E-03 | 54.9 | 4.71E-01 | |

Flags: "T" = Tentatively associated

Summary of Nuclide Activity

| | |
|---|---------------|
| Total number of lines in spectrum | 11 |
| Number of unidentified lines | 9 |
| Number of lines tentatively identified by NID | 2 18.18% |

Nuclide Type : natural

| Nuclide | Hlife | Decay | Wtd Mean Uncorrected pCi/L | Wtd Mean Decay Corr pCi/L | Decay Corr 2-Sigma Error | 2-Sigma %Error | Flags |
|------------------|-------|-------|----------------------------------|---------------------------------|-----------------------------|-------------------|-------|
| TH-228 | 1.91Y | 1.02 | 2.193E+00 | 2.237E+00 | 4.943E+00 | 220.96 | |
| Total Activity : | | | 2.193E+00 | 2.237E+00 | | | |

Grand Total Activity : 2.193E+00 2.237E+00

Flags: "K" = Keyline not found

"M" = Manually accepted

"E" = Manually edited

"A" = Nuclide specific abn. limit

Interference Report

No interference correction performed

Combined Activity-MDA Report

---- Identified Nuclides ----

| Nuclide | Activity (pCi/L) | Act error | MDA (pCi/L) | MDA error | Act/MDA |
|---------|---------------------|-----------|----------------|-----------|---------|
| TH-228 | 2.237E+00 | 4.943E+00 | 7.910E+00 | 0.000E+00 | 0.283 |

---- Non-Identified Nuclides ----

| Nuclide | Key-Line Activity (pCi/L) | K.L. Ided | Act error | MDA (pCi/L) | MDA error | Act/MDA |
|---------|---------------------------------|--------------|-----------|----------------|-----------|---------|
| BE-7 | 1.320E+01 | | 2.743E+01 | 4.652E+01 | 0.000E+00 | 0.284 |

| | | | | | |
|---------|------------|-----------|-----------|-----------|--------|
| NA-24 | -4.575E+03 | 7.785E+03 | Half-Life | too short | |
| K-40 | 1.018E+01 | 3.923E+01 | 7.160E+01 | 0.000E+00 | 0.142 |
| CR-51 | -1.839E+01 | 3.696E+01 | 5.985E+01 | 0.000E+00 | -0.307 |
| MN-54 | -2.912E-01 | 2.916E+00 | 4.706E+00 | 0.000E+00 | -0.062 |
| CO-57 | 1.320E+00 | 2.491E+00 | 4.130E+00 | 0.000E+00 | 0.320 |
| CO-58 | 6.292E-01 | 3.240E+00 | 5.351E+00 | 0.000E+00 | 0.118 |
| FE-59 | 4.423E+00 | 7.283E+00 | 1.240E+01 | 0.000E+00 | 0.357 |
| CO-60 | 2.762E+00 | 3.519E+00 | 5.972E+00 | 0.000E+00 | 0.463 |
| ZN-65 | 3.890E+00 | 7.697E+00 | 1.133E+01 | 0.000E+00 | 0.343 |
| SE-75 | -3.216E+00 | 3.878E+00 | 6.063E+00 | 0.000E+00 | -0.530 |
| SR-85 | 2.043E+01 | 3.933E+00 | 7.708E+00 | 0.000E+00 | 2.650 |
| Y-88 | -1.863E+00 | 3.517E+00 | 5.461E+00 | 0.000E+00 | -0.341 |
| NB-94 | 1.048E+00 | 2.732E+00 | 4.602E+00 | 0.000E+00 | 0.228 |
| NB-95 | 1.974E+00 | 3.246E+00 | 5.528E+00 | 0.000E+00 | 0.357 |
| ZR-95 | -3.750E-01 | 5.579E+00 | 9.098E+00 | 0.000E+00 | -0.041 |
| MO-99 | 1.951E+03 | 3.194E+03 | 5.456E+03 | 0.000E+00 | 0.358 |
| RU-103 | 2.285E+00 | 3.920E+00 | 6.652E+00 | 0.000E+00 | 0.344 |
| RU-106 | 3.479E+00 | 2.786E+01 | 4.549E+01 | 0.000E+00 | 0.076 |
| AG-110m | 8.325E-01 | 2.921E+00 | 4.918E+00 | 0.000E+00 | 0.169 |
| SN-113 | 1.529E+00 | 3.994E+00 | 6.624E+00 | 0.000E+00 | 0.231 |
| SB-124 | 1.957E+00 | 7.157E+00 | 5.486E+00 | 0.000E+00 | 0.357 |
| SB-125 | 1.043E+00 | 7.397E+00 | 1.242E+01 | 0.000E+00 | 0.084 |
| TE-129M | -1.953E+00 | 4.456E+01 | 7.375E+01 | 0.000E+00 | -0.026 |
| I-131 | 5.465E-01 | 1.558E+01 | 2.556E+01 | 0.000E+00 | 0.021 |
| BA-133 | 4.972E+00 | 4.390E+00 | 6.548E+00 | 0.000E+00 | 0.759 |
| CS-134 | 5.288E+00 | 5.907E+00 | 5.082E+00 | 0.000E+00 | 1.040 |
| CS-136 | -3.130E+00 | 7.724E+00 | 1.221E+01 | 0.000E+00 | -0.256 |
| CS-137 | 3.381E+00 | 3.075E+00 | 5.404E+00 | 0.000E+00 | 0.626 |
| CE-139 | -4.640E-01 | 2.680E+00 | 4.442E+00 | 0.000E+00 | -0.104 |
| BA-140 | 4.934E+00 | 2.771E+01 | 4.589E+01 | 0.000E+00 | 0.107 |
| LA-140 | -5.849E+00 | 9.322E+00 | 1.427E+01 | 0.000E+00 | -0.410 |
| CE-141 | -3.208E+00 | 7.506E+00 | 1.015E+01 | 0.000E+00 | -0.316 |
| CE-144 | -5.628E+00 | 2.279E+01 | 3.127E+01 | 0.000E+00 | -0.180 |
| EU-152 | -4.010E+00 | 1.007E+01 | 1.369E+01 | 0.000E+00 | -0.293 |
| EU-154 | 2.696E+00 | 5.054E+00 | 8.376E+00 | 0.000E+00 | 0.322 |
| RA-226 | -2.093E+01 | 6.569E+01 | 1.043E+02 | 0.000E+00 | -0.201 |
| AC-228 | -3.961E+00 | 1.089E+01 | 1.722E+01 | 0.000E+00 | -0.230 |
| TH-232 | -3.934E+00 | 1.082E+01 | 1.711E+01 | 0.000E+00 | -0.230 |
| U-235 | -2.722E+00 | 2.213E+01 | 3.038E+01 | 0.000E+00 | -0.090 |
| U-238 | 1.676E+01 | 3.295E+02 | 5.422E+02 | 0.000E+00 | 0.031 |
| AM-241 | -4.599E+01 | 2.700E+01 | 3.805E+01 | 0.000E+00 | -1.209 |

```

A,04L28990-1      ,06/19/2006 17:33,05/30/2006 09:40,    3.059E+00,WG L28990-1 EX
B,04L28990-1      ,LIBD      ,06/13/2006 09:42,043L082004
C,TH-228  ,YES,    2.237E+00,    4.943E+00,    7.910E+00,,    0.283
C,BE-7    ,NO ,    1.320E+01,    2.743E+01,    4.652E+01,,    0.284
C,K-40    ,NO ,    1.018E+01,    3.923E+01,    7.160E+01,,    0.142
C,CR-51   ,NO ,   -1.839E+01,    3.696E+01,    5.985E+01,,   -0.307
C,MN-54   ,NO ,   -2.912E-01,    2.916E+00,    4.706E+00,,   -0.062
C,CO-57   ,NO ,    1.320E+00,    2.491E+00,    4.130E+00,,    0.320
C,CO-58   ,NO ,    6.292E-01,    3.240E+00,    5.351E+00,,    0.118
C,FE-59   ,NO ,    4.423E+00,    7.283E+00,    1.240E+01,,    0.357
C,CO-60   ,NO ,    2.762E+00,    3.519E+00,    5.972E+00,,    0.463
C,ZN-65   ,NO ,    3.890E+00,    7.697E+00,    1.133E+01,,    0.343
C,SE-75   ,NO ,   -3.216E+00,    3.878E+00,    6.063E+00,,   -0.530
C,SR-85   ,NO ,    2.043E+01,    3.933E+00,    7.708E+00,,    2.650
C,Y-88    ,NO ,   -1.863E+00,    3.517E+00,    5.461E+00,,   -0.341
C,NB-94   ,NO ,    1.048E+00,    2.732E+00,    4.602E+00,,    0.228
C,NB-95   ,NO ,    1.974E+00,    3.246E+00,    5.528E+00,,    0.357
C,ZR-95   ,NO ,   -3.750E-01,    5.579E+00,    9.098E+00,,   -0.041
C,MO-99   ,NO ,    1.951E+03,    3.194E+03,    5.456E+03,,    0.358
C,RU-103  ,NO ,    2.285E+00,    3.920E+00,    6.652E+00,,    0.344
C,RU-106  ,NO ,    3.479E+00,    2.786E+01,    4.549E+01,,    0.076
C,AG-110m ,NO ,    8.325E-01,    2.921E+00,    4.918E+00,,    0.169
C,SN-113  ,NO ,    1.529E+00,    3.994E+00,    6.624E+00,,    0.231
C,SB-124  ,NO ,    1.957E+00,    7.157E+00,    5.486E+00,,    0.357
C,SB-125  ,NO ,    1.043E+00,    7.397E+00,    1.242E+01,,    0.084
C,TE-129M ,NO ,   -1.953E+00,    4.456E+01,    7.375E+01,,   -0.026
C,I-131   ,NO ,    5.465E-01,    1.558E+01,    2.556E+01,,    0.021
C,BA-133  ,NO ,    4.972E+00,    4.390E+00,    6.548E+00,,    0.759
C,CS-134  ,NO ,    5.288E+00,    5.907E+00,    5.082E+00,,    1.040
C,CS-136  ,NO ,   -3.130E+00,    7.724E+00,    1.221E+01,,   -0.256
C,CS-137  ,NO ,    3.381E+00,    3.075E+00,    5.404E+00,,    0.626
C,CE-139  ,NO ,   -4.640E-01,    2.680E+00,    4.442E+00,,   -0.104
C,BA-140  ,NO ,    4.934E+00,    2.771E+01,    4.589E+01,,    0.107
C,LA-140  ,NO ,   -5.849E+00,    9.322E+00,    1.427E+01,,   -0.410
C,CE-141  ,NO ,   -3.208E+00,    7.506E+00,    1.015E+01,,   -0.316
C,CE-144  ,NO ,   -5.628E+00,    2.279E+01,    3.127E+01,,   -0.180
C,EU-152  ,NO ,   -4.010E+00,    1.007E+01,    1.369E+01,,   -0.293
C,EU-154  ,NO ,    2.696E+00,    5.054E+00,    8.376E+00,,    0.322
C,RA-226  ,NO ,   -2.093E+01,    6.569E+01,    1.043E+02,,   -0.201
C,AC-228  ,NO ,   -3.961E+00,    1.089E+01,    1.722E+01,,   -0.230
C,TH-232  ,NO ,   -3.934E+00,    1.082E+01,    1.711E+01,,   -0.230
C,U-235   ,NO ,   -2.722E+00,    2.213E+01,    3.038E+01,,   -0.090
C,U-238   ,NO ,    1.676E+01,    3.295E+02,    5.422E+02,,    0.031
C,AM-241  ,NO ,   -4.599E+01,    2.700E+01,    3.805E+01,,   -1.209

```



2508 Quality Lane
Knoxville, TN 37931
865-690-6819 (Phone)

Work Order #: L28845 R3

Exelon

July 19, 2006



Kathy Shaw
 Conestoga-Rovers & Associates
 45 Farmington Valley Road
 Plainville CT 06062

Case Narrative - L28845
EX001-3ESPDRES-06

07/19/2006 16:41

Sample Receipt

The following samples were received on June 5, 2006 in good condition, unless otherwise noted.

Sample WG-DN-MW-DN-108I-052606-JL-065 (L28845-7) exceeded 2.0 pCi/L for total strontium and has been scheduled for Sr-90 analysis.

Revision #1:

Analysis for Sr-90 confirmed the original results for total strontium. The activity detected on the original analysis can be attributed to the Sr-90 nuclide. The Strontium 90 result is included in this report.

Revision #2:

Sample WG-DN-MW-DN-108I-052606-JL-065 (L28845-7) analysis for Sr-90 confirmed the original results for total strontium. The activity detected on the original analysis can be attributed to the Sr-90 nuclide. The Strontium 90 result is included in this report.

Revision #3:

Report has been revised to include the Sr-90 re-analysis results of sample WG-DN-MW-DN-108I-052606-JL-065 (L28845-7).

Cross Reference Table

| Client ID | Laboratory ID | Station ID(if applicable) |
|--------------------------------|---------------|---------------------------|
| WG-DN-MW-DN-103S-052606-JH-010 | L28845-1 | |
| WG-DN-MW-DN-103S-052606-JH-011 | L28845-2 | |
| WG-DN-MW-DN-103I-052606-JH-012 | L28845-3 | |
| WG-DN-MW-DN-106S-052606-JH-013 | L28845-4 | |
| WG-DN-MW-DN-101S-052606-JL-063 | L28845-5 | |
| WG-DN-MW-DN-101I-052606-JL-064 | L28845-6 | |
| WG-DN-MW-DN-108I-052606-JL-065 | L28845-7 | |
| WG-DN-DSP-DN-123-052606-JL-060 | L28845-8 | |
| WG-DN-DSP-DN-123-052606-JL-061 | L28845-9 | |
| WG-DN-DSP-DN-124-052606-JL-062 | L28845-10 | |

Analytical Method Cross Reference Table

| Radiological Parameter | TBE Knoxville Method | Reference Method |
|------------------------|----------------------|------------------|
| Gamma Spectrometry | TBE-2007 | EPA 901.1 |
| H-3 | TBE-2010 | EPA 906.0 |
| SR-90 | TBE-2019 | EPA 905.0 |



TELEDYNE
BROWN ENGINEERING, INC.

A Teledyne Technologies Company
2508 Quality Lane
Knoxville, TN 37931-3133

Case Narrative - L28845
EX001-3ESPDRES-06

07/19/2006 16:41

| Radiological Parameter | TBE Knoxville Method | Reference Method |
|------------------------|----------------------|------------------|
| TOTAL SR | TBE-2018 | EPA 905.0 |



Case Narrative - L28845
EX001-3ESPDRES-06

07/19/2006 16:41

Gamma Spectroscopy

Quality Control

Quality control samples were analyzed as WG4117, WG4118.

Duplicate Sample

Duplicates were analyzed for the following samples. All duplicate results were within acceptance limits, unless otherwise noted.

| <u>Client ID</u> | <u>Laboratory ID</u> | <u>QC Sample #</u> |
|-----------------------------|----------------------|--------------------|
| WG-TMI-MS-19-053106-JAS-017 | L28841-1 | WG4117-1 |
| WG-TMI-MS-7-053106-JAS-015 | L28846-1 | WG4118-1 |

H-3

Quality Control

Quality control samples were analyzed as WG4110.

Method Blank

All blanks were within acceptance limits, unless otherwise noted.

Laboratory Control Sample

All laboratory control samples were within acceptance limits, unless otherwise noted.

Duplicate Sample

Duplicates were analyzed for the following samples. All duplicate results were within acceptance limits, unless otherwise noted.

| <u>Client ID</u> | <u>Laboratory ID</u> | <u>QC Sample #</u> |
|----------------------------|----------------------|--------------------|
| WG-TMI-MS-7-053106-JAS-015 | L28846-1 | WG4110-3 |

SR-90

Per client request to confirm original result.

Quality Control

Quality control samples were analyzed as WG4162, WG4230.

Method Blank

All blanks were within acceptance limits, unless otherwise noted.

Laboratory Control Sample

All laboratory control samples were within acceptance limits, unless otherwise noted.



Case Narrative - L28845
EX001-3ESPDRES-06

07/19/2006 16:41

TOTAL SR

Client requested reanalysis for confirmation

Quality Control

Quality control samples were analyzed as WG4162.

Method Blank

All blanks were within acceptance limits, unless otherwise noted.

Laboratory Control Sample

All laboratory control samples were within acceptance limits, unless otherwise noted.

Duplicate Sample

Duplicates were analyzed for the following samples. All duplicate results were within acceptance limits, unless otherwise noted.

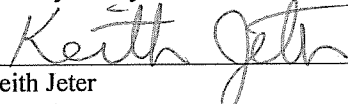
| <u>Client ID</u> | <u>Laboratory ID</u> | <u>QC Sample #</u> |
|------------------|----------------------|--------------------|
| STILL CREEK | L28864-1 | WG4162-3 |

Certification

This is to certify that Teledyne Brown Engineering - Environmental Services, located at 2508 Quality Lane, Knoxville, Tennessee, 37931, has analyzed, tested and documented samples as specified in the applicable purchase order.

This also certifies that requirements of applicable codes, standards and specifications have been fully met and that any quality assurance documentation which verified conformance to the purchase order is on file and may be examined upon request.

I hereby certify that the above statements are true and correct.



Keith Jeter
Operations Manager

Sample Receipt Summary

06/07/06 09:52

SR #: SR08727

Client: Exelon

Project #: EX001-3ESPDRES-06

LIMS #: L28845

Initiated By: BWILKERSON

Init Date: 06/06/06 Receive Date: 06/05/06

Notification of Variance

Person Notified:

Contacted By:

Notify Date:

Notify Method:

Notify Comment:

Client Response

Person Responding:

Response Date:

Response Method:

Response Comment

| Criteria | Yes | No | NA | Comment |
|--|-----|----|----|-----------------------------------|
| 1 Shipping container custody seals present and intact. | | | NA | |
| 2 Sample container custody seals present and intact. | | | NA | |
| 3 Sample containers received in good condition | | Y | | |
| 4 Chain of custody received with samples | | Y | | |
| 5 All samples listed on chain of custody received | | Y | | |
| 6 Sample container labels present and legible. | | Y | | |
| 7 Information on container labels correspond with chain of custody | | Y | | |
| 8 Sample(s) properly preserved and in appropriate container(s) | | Y | | pH at or below 2 on Gamma portion |
| 9 Other (Describe) | | | NA | |

1001-00(SOURCE)GN-CO004

CAUTION - HIGH RADIATION LEVEL

CONESTOGA-ROVERS & ASSOCIATES
8615 W. Bryn Mawr Avenue
Chicago, Illinois 60631
(773)380-9933 phone
(773)380-6421 fax



SHIPPED TO
(Laboratory Name):

REFERENCE NUMBER:

CHAIN-OF-CUSTODY RECORD

SAMPLER'S SIGNATURE: Julie August PRINTED NAME: Julie Lutzwick

PROJECT NAME:

Dresden Generating Station

PARAMETERS

Strontium 90
Cesium 137

REMARKS

SEQ. No. DATE TIME SAMPLE IDENTIFICATION No. SAMPLE MATRIX

| | | | |
|---------|------|--------------------------------|---|
| 5/26/06 | 1010 | WG-DN-DSP-123-052006-JL-060 | W |
| | 1020 | WG-DN-DSP-DN-123-052006-JL-061 | W |
| | 1200 | WG-DN-DSP-DN-124-052006-JL-062 | W |

No. OF CONTAINERS

2

2

2

TOTAL NUMBER OF CONTAINERS

6

| | | | |
|--|---------------|-----------------------------------|--------------|
| RELINQUISHED BY: ① <u>Julie August</u> | DATE: 5/26/06 | RECEIVED BY: ② <u>[Signature]</u> | DATE: 6/1/06 |
| RELINQUISHED BY: ② | TIME: 1800 | RECEIVED BY: ③ | TIME: 1300 |
| RELINQUISHED BY: ③ | DATE: | RECEIVED BY: | DATE: |
| | TIME: | | TIME: |
| | DATE: | | DATE: |
| | TIME: | | TIME: |

METHOD OF SHIPMENT:

AIR BILL No.

SAMPLE TEAM:

White -Fully Executed Copy
Yellow -Receiving Laboratory Copy
Pink -Shipper Copy
Goldenrod -Sampler Copy

RECEIVED FOR LABORATORY BY:

B. Lutzwick

DATE: 6-5-06 TIME: 11:00

12776

Internal Chain of Custody

Internal Chain of Custody

Sample # L28845-1 Containernum 1

| | |
|--------------|---------|
| Prod | Analyst |
| GELI | DW |
| H-3 | SO |
| SR-90 (FAST) | LCB |

Relinquish Date Relinquish By

Received By

06/06/2006 00:00

099999

Sample Custodian

06/08/2006 14:02 099999

Sample Custodian

029709

Susan Ogletree

Sample # L28845-1 Containernum 2

| | |
|--------------|---------|
| Prod | Analyst |
| GELI | DW |
| H-3 | SO |
| SR-90 (FAST) | LCB |

Relinquish Date Relinquish By

Received By

06/06/2006 00:00

099999

Sample Custodian

06/09/2006 15:38 099999

Sample Custodian

030854

Donna Webb

06/09/2006 15:39 030854

Donna Webb

029728

Lauren Larsen

06/09/2006 15:39 029728

Lauren Larsen

030854

Donna Webb

06/09/2006 15:39 030854

Donna Webb

099999

Sample Custodian

Sample # L28845-2 Containernum 1

| | |
|--------------|---------|
| Prod | Analyst |
| GELI | DW |
| H-3 | SO |
| SR-90 (FAST) | LCB |

Relinquish Date Relinquish By

Received By

06/06/2006 00:00

099999

Sample Custodian

06/08/2006 14:02 099999

Sample Custodian

029709

Susan Ogletree

Sample # L28845-2 Containernum 2

| | |
|--------------|---------|
| Prod | Analyst |
| GELI | DW |
| H-3 | SO |
| SR-90 (FAST) | LCB |

Relinquish Date Relinquish By

Received By

06/06/2006 00:00

099999

Sample Custodian

06/09/2006 15:38 099999

Sample Custodian

030854

Donna Webb

06/09/2006 15:39 030854

Donna Webb

029728

Lauren Larsen

06/09/2006 15:39 030854

Donna Webb

099999

Sample Custodian

06/09/2006 15:39 029728

Lauren Larsen

030854

Donna Webb

Sample # L28845-3 Containernum 1

| | |
|------|---------|
| Prod | Analyst |
| GELI | DW |
| H-3 | SO |

Internal Chain of Custody

Sample # L28845-3 Containernum 1

SR-90 (FAST) LCB

Relinquish Date Relinquish By

Received By

06/06/2006 00:00

099999

Sample Custodian

06/08/2006 14:02

099999

Sample Custodian

029709

Susan Ogletree

Sample # L28845-3 Containernum 2

Prod Analyst

GELI

DW

H-3

SO

SR-90 (FAST)

LCB

Relinquish Date Relinquish By

Received By

06/06/2006 00:00

099999

Sample Custodian

06/09/2006 15:38

099999

Sample Custodian

030854

Donna Webb

06/09/2006 15:39

030854

Donna Webb

029728

Lauren Larsen

06/09/2006 15:39

030854

Donna Webb

099999

Sample Custodian

06/09/2006 15:39

029728

Lauren Larsen

030854

Donna Webb

Sample # L28845-4 Containernum 1

Prod Analyst

GELI

DW

H-3

SO

SR-90 (FAST)

LCB

Relinquish Date Relinquish By

Received By

06/06/2006 00:00

099999

Sample Custodian

06/08/2006 14:02

099999

Sample Custodian

029709

Susan Ogletree

Sample # L28845-4 Containernum 2

Prod Analyst

GELI

DW

H-3

SO

SR-90 (FAST)

LCB

Relinquish Date Relinquish By

Received By

06/06/2006 00:00

099999

Sample Custodian

06/09/2006 15:38

099999

Sample Custodian

030854

Donna Webb

06/09/2006 15:39

030854

Donna Webb

029728

Lauren Larsen

06/09/2006 15:39

030854

Donna Webb

099999

Sample Custodian

06/09/2006 15:39

029728

Lauren Larsen

030854

Donna Webb

Sample # L28845-5 Containernum 1

Prod Analyst

GELI

DW

H-3

SO

SR-90 (FAST)

LCB

Relinquish Date Relinquish By

Received By

Internal Chain of Custody

Sample # L28845-5

Containernum 1

Relinquish Date

Received By

06/06/2006 00:00

099999

Sample Custodian

06/08/2006 14:02

099999

Sample Custodian

029709

Susan Ogletree

Sample # L28845-5

Containernum 2

Prod

Analyst

GELI

DW

H-3

SO

SR-90 (FAST)

LCB

Relinquish Date Relinquish By

Received By

06/06/2006 00:00

099999

Sample Custodian

06/09/2006 15:38

099999

Sample Custodian

030854

Donna Webb

06/09/2006 15:39

030854

Donna Webb

029728

Lauren Larsen

06/09/2006 15:39

030854

Donna Webb

099999

Sample Custodian

06/09/2006 15:39

029728

Lauren Larsen

030854

Donna Webb

Sample # L28845-6

Containernum 1

Prod

Analyst

GELI

DW

H-3

SO

SR-90 (FAST)

LCB

Relinquish Date Relinquish By

Received By

06/06/2006 00:00

099999

Sample Custodian

06/08/2006 14:02

099999

Sample Custodian

029709

Susan Ogletree

Sample # L28845-6

Containernum 2

Prod

Analyst

GELI

DW

H-3

SO

SR-90 (FAST)

LCB

Relinquish Date Relinquish By

Received By

06/06/2006 00:00

099999

Sample Custodian

06/09/2006 15:38

099999

Sample Custodian

030854

Donna Webb

06/09/2006 15:39

030854

Donna Webb

029728

Lauren Larsen

06/09/2006 15:39

030854

Donna Webb

099999

Sample Custodian

06/09/2006 15:39

029728

Lauren Larsen

030854

Donna Webb

Sample # L28845-7

Containernum 1

Prod

Analyst

GELI

DW

H-3

SO

SR-90 (FAST)

LCB

SR-90

LCB

Relinquish Date Relinquish By

Received By

06/06/2006 00:00

099999

Sample Custodian

Internal Chain of Custody

Sample # L28845-7 Containernum 1

| Relinquish Date | | Sample Custodian | Received By | |
|------------------|--------|------------------|-------------|----------------|
| 06/08/2006 14:02 | 099999 | | 029709 | Susan Ogletree |

Sample # L28845-7 Containernum 2

| Prod | Analyst |
|--------------|---------|
| GELI | DW |
| H-3 | SO |
| SR-90 (FAST) | LCB |
| SR-90 | LCB |

| Relinquish Date | Relinquish By | | Received By | |
|------------------|---------------|------------------|-------------|------------------|
| 06/06/2006 00:00 | | | 099999 | Sample Custodian |
| 06/09/2006 15:38 | 099999 | Sample Custodian | 030854 | Donna Webb |
| 06/09/2006 15:39 | 030854 | Donna Webb | 029728 | Lauren Larsen |
| 06/09/2006 15:39 | 030854 | Donna Webb | 099999 | Sample Custodian |
| 06/09/2006 15:39 | 029728 | Lauren Larsen | 030854 | Donna Webb |

Sample # L28845-8 Containernum 1

| Prod | Analyst |
|--------------|---------|
| GELI | DW |
| H-3 | SO |
| SR-90 (FAST) | LCB |

| Relinquish Date | Relinquish By | | Received By | |
|------------------|---------------|------------------|-------------|------------------|
| 06/06/2006 00:00 | | | 099999 | Sample Custodian |
| 06/08/2006 14:02 | 099999 | Sample Custodian | 029709 | Susan Ogletree |

Sample # L28845-8 Containernum 2

| Prod | Analyst |
|--------------|---------|
| GELI | DW |
| H-3 | SO |
| SR-90 (FAST) | LCB |

| Relinquish Date | Relinquish By | | Received By | |
|------------------|---------------|------------------|-------------|------------------|
| 06/06/2006 00:00 | | | 099999 | Sample Custodian |
| 06/09/2006 15:38 | 099999 | Sample Custodian | 030854 | Donna Webb |
| 06/09/2006 15:39 | 030854 | Donna Webb | 029728 | Lauren Larsen |
| 06/09/2006 15:39 | 029728 | Lauren Larsen | 030854 | Donna Webb |
| 06/09/2006 15:39 | 030854 | Donna Webb | 099999 | Sample Custodian |

Sample # L28845-9 Containernum 1

| Prod | Analyst |
|--------------|---------|
| GELI | DW |
| H-3 | SO |
| SR-90 (FAST) | LCB |

| Relinquish Date | Relinquish By | | Received By | |
|------------------|---------------|------------------|-------------|------------------|
| 06/06/2006 00:00 | | | 099999 | Sample Custodian |
| 06/08/2006 14:02 | 099999 | Sample Custodian | 029709 | Susan Ogletree |

Sample # L28845-9 Containernum 2

Prod Analyst
GELI DW
H-3 SO
SR-90 (FAST) LCB

| Relinquish Date | Relinquish By | | Received By | |
|------------------|---------------|------------------|-------------|------------------|
| 06/06/2006 00:00 | | | 099999 | Sample Custodian |
| 06/09/2006 15:38 | 099999 | Sample Custodian | 030854 | Donna Webb |
| 06/09/2006 15:39 | 030854 | Donna Webb | 029728 | Lauren Larsen |
| 06/09/2006 15:39 | 029728 | Lauren Larsen | 030854 | Donna Webb |
| 06/09/2006 15:39 | 030854 | Donna Webb | 099999 | Sample Custodian |

Sample # L28845-10 Containernum 1

Prod Analyst
GELI DW
H-3 SO
SR-90 (FAST) LCB

| Relinquish Date | Relinquish By | | Received By | |
|------------------|---------------|------------------|-------------|------------------|
| 06/06/2006 00:00 | | | 099999 | Sample Custodian |
| 06/08/2006 14:02 | 099999 | Sample Custodian | 029709 | Susan Ogletree |

Sample # L28845-10 Containernum 2

Prod Analyst
GELI DW
H-3 SO
SR-90 (FAST) LCB

| Relinquish Date | Relinquish By | | Received By | |
|------------------|---------------|------------------|-------------|------------------|
| 06/06/2006 00:00 | | | 099999 | Sample Custodian |
| 06/09/2006 15:38 | 099999 | Sample Custodian | 030854 | Donna Webb |
| 06/09/2006 15:39 | 030854 | Donna Webb | 029728 | Lauren Larsen |
| 06/09/2006 15:39 | 029728 | Lauren Larsen | 030854 | Donna Webb |
| 06/09/2006 15:39 | 030854 | Donna Webb | 099999 | Sample Custodian |

L28845

L28845-1 WG WG-DN-MW-DN-103S-052606-JH-010

| <u>Process step</u> | <u>Prod</u> | <u>Analyst</u> | <u>Date</u> |
|---------------------|--------------|----------------|-------------|
| Login | | BWILKERSON | 06/05/06 |
| Aliquot | GELI | DW | 06/09/06 |
| Aliquot | H-3 | SO | 06/09/06 |
| Aliquot | SR-90 (FAST) | LCB | 06/14/06 |
| Count Room | GELI | KOJ | 06/11/06 |
| Count Room | H-3 | KPW | 06/11/06 |
| Count Room | SR-90 (FAST) | KOJ | 06/20/06 |

L28845-2 WG WG-DN-MW-DN-103S-052606-JH-011

| <u>Process step</u> | <u>Prod</u> | <u>Analyst</u> | <u>Date</u> |
|---------------------|--------------|----------------|-------------|
| Login | | BWILKERSON | 06/05/06 |
| Aliquot | GELI | DW | 06/09/06 |
| Aliquot | H-3 | SO | 06/09/06 |
| Aliquot | SR-90 (FAST) | LCB | 06/14/06 |
| Count Room | GELI | ILL | 06/12/06 |
| Count Room | H-3 | KPW | 06/11/06 |
| Count Room | SR-90 (FAST) | KOJ | 06/21/06 |

L28845-3 WG WG-DN-MW-DN-103I-052606-JH-012

| <u>Process step</u> | <u>Prod</u> | <u>Analyst</u> | <u>Date</u> |
|---------------------|--------------|----------------|-------------|
| Login | | RCHARLES | 06/05/06 |
| Aliquot | GELI | DW | 06/09/06 |
| Aliquot | H-3 | SO | 06/09/06 |
| Aliquot | SR-90 (FAST) | LCB | 06/14/06 |
| Count Room | GELI | ILL | 06/12/06 |
| Count Room | H-3 | KPW | 06/11/06 |
| Count Room | SR-90 (FAST) | KOJ | 06/20/06 |

L28845-4 WG WG-DN-MW-DN-106S-052606-JH-013

| <u>Process step</u> | <u>Prod</u> | <u>Analyst</u> | <u>Date</u> |
|---------------------|--------------|----------------|-------------|
| Login | | BWILKERSON | 06/05/06 |
| Aliquot | GELI | DW | 06/09/06 |
| Aliquot | H-3 | SO | 06/09/06 |
| Aliquot | SR-90 (FAST) | LCB | 06/14/06 |
| Count Room | GELI | ILL | 06/12/06 |
| Count Room | H-3 | KPW | 06/11/06 |
| Count Room | SR-90 (FAST) | KOJ | 06/20/06 |

L28845-5 WG WG-DN-MW-DN-101S-052606-JL-063

| <u>Process step</u> | <u>Prod</u> | <u>Analyst</u> | <u>Date</u> |
|---------------------|--------------|----------------|-------------|
| Login | | BWILKERSON | 06/05/06 |
| Aliquot | GELI | DW | 06/09/06 |
| Aliquot | H-3 | SO | 06/09/06 |
| Aliquot | SR-90 (FAST) | LCB | 06/14/06 |
| Count Room | GELI | ILL | 06/12/06 |

L28845

L28845-5 WG WG-DN-MW-DN-101S-052606-JL-063

| | | | |
|------------|--------------|-----|----------|
| Count Room | H-3 | KPW | 06/11/06 |
| Count Room | SR-90 (FAST) | KOJ | 06/20/06 |

L28845-6 WG WG-DN-MW-DN-101I-052606-JL-064

| <u>Process step</u> | <u>Prod</u> | <u>Analyst</u> | <u>Date</u> |
|---------------------|--------------|----------------|-------------|
| Login | | BWILKERSON | 06/05/06 |
| Aliquot | GELI | DW | 06/09/06 |
| Aliquot | H-3 | SO | 06/09/06 |
| Aliquot | SR-90 (FAST) | LCB | 06/14/06 |
| Count Room | GELI | KOJ | 06/12/06 |
| Count Room | H-3 | KPW | 06/11/06 |
| Count Room | SR-90 (FAST) | KOJ | 06/20/06 |

L28845-7 WG WG-DN-MW-DN-108I-052606-JL-065

| <u>Process step</u> | <u>Prod</u> | <u>Analyst</u> | <u>Date</u> |
|---------------------|--------------|----------------|-------------|
| Login | | KTHURMAN | 06/05/06 |
| Aliquot | GELI | DW | 06/09/06 |
| Aliquot | H-3 | SO | 06/09/06 |
| Aliquot | SR-90 | LCB | 06/14/06 |
| Aliquot | SR-90 (FAST) | LCB | 06/14/06 |
| Count Room | GELI | KPW | 06/12/06 |
| Count Room | H-3 | KPW | 06/11/06 |
| Count Room | SR-90 | KOJ | 07/01/06 |
| Count Room | SR-90 (FAST) | KOJ | 06/21/06 |

L28845-7R1 WG WG-DN-MW-DN-108I-052606-JL-065

| <u>Process step</u> | <u>Prod</u> | <u>Analyst</u> | <u>Date</u> |
|---------------------|--------------|----------------|-------------|
| Login | | RCHARLES | 06/05/06 |
| Aliquot | SR-90 | LCB | 07/13/06 |
| Aliquot | SR-90 (FAST) | LCB | 07/13/06 |
| Count Room | SR-90 | KOJ | 07/19/06 |
| Count Room | SR-90 (FAST) | MVW | 07/14/06 |

L28845-8 WG WG-DN-DSP-DN-123-052606-JL-060

| <u>Process step</u> | <u>Prod</u> | <u>Analyst</u> | <u>Date</u> |
|---------------------|--------------|----------------|-------------|
| Login | | BWILKERSON | 06/05/06 |
| Aliquot | GELI | DW | 06/09/06 |
| Aliquot | H-3 | SO | 06/09/06 |
| Aliquot | SR-90 (FAST) | LCB | 06/14/06 |
| Count Room | GELI | KPW | 06/12/06 |
| Count Room | H-3 | KPW | 06/12/06 |
| Count Room | SR-90 (FAST) | KOJ | 06/20/06 |

L28845-9 WG WG-DN-DSP-DN-123-052606-JL-061

| <u>Process step</u> | <u>Prod</u> | <u>Analyst</u> | <u>Date</u> |
|---------------------|-------------|----------------|-------------|
| Login | | BWILKERSON | 06/05/06 |

Teledyne Brown Engineering
Internal Chain of Custody
Supplemental Sheet

L28845

| | | | |
|------------|--------------|--------------------------------|----------|
| L28845-9 | WG | WG-DN-DSP-DN-123-052606-JL-061 | |
| Aliquot | GELI | DW | 06/09/06 |
| Aliquot | H-3 | SO | 06/09/06 |
| Aliquot | SR-90 (FAST) | LCB | 06/14/06 |
| Count Room | GELI | KPW | 06/12/06 |
| Count Room | H-3 | KPW | 06/12/06 |
| Count Room | SR-90 (FAST) | KOJ | 06/20/06 |

| | | | |
|---------------------|--------------|--------------------------------|-------------|
| L28845-10 | WG | WG-DN-DSP-DN-124-052606-JL-062 | |
| <u>Process step</u> | <u>Prod</u> | <u>Analyst</u> | <u>Date</u> |
| Login | | BWILKERSON | 06/05/06 |
| Aliquot | H-3 | SO | 06/09/06 |
| Aliquot | GELI | DW | 06/10/06 |
| Aliquot | SR-90 (FAST) | LCB | 06/14/06 |
| Count Room | GELI | ILL | 06/12/06 |
| Count Room | H-3 | KPW | 06/12/06 |
| Count Room | SR-90 (FAST) | KOJ | 06/20/06 |

Analytical Results Summary

Report of Analysis

07/19/06 16:23

L28845

Conestoga-Rovers & Associates

EX001-3ESPDRES-06

Kathy Shaw

| Sample ID: WG-DN-MW-DN-103S-052606-JH-010 | | | | Collect Start: 05/26/2006 09:40 | | | Matrix: Ground Water | | | (WG) | | | |
|---|------|---------------|---------------------|---------------------------------|-------|-------|----------------------|---------------|----------------|------------|------------|-------------|-------------|
| Station: | | | | Collect Stop: | | | Volume: | | | | | | |
| Description: | | | | Receive Date: 06/05/2006 | | | % Moisture: | | | | | | |
| LIMS Number: L28845-1 | | | | | | | | | | | | | |
| Radionuclide | SOP# | Activity Conc | Uncertainty 2 Sigma | MDC | Units | Run # | Aliquot Volume | Aliquot Units | Reference Date | Count Date | Count Time | Count Units | Flag Values |
| H-3 | 2010 | 1.12E+02 | 1.11E+02 | 1.77E+02 | pCi/L | | 10 | ml | | 06/11/06 | 135 | M | U |
| TOTAL SR | 2018 | 8.33E-01 | 7.12E-01 | 1.30E+00 | pCi/L | | 450 | ml | 05/26/06 09:40 | 06/20/06 | 120 | M | U |
| MN-54 | 2007 | -3.75E-01 | 1.99E+00 | 3.26E+00 | pCi/L | | 3078.23 | ml | 05/26/06 09:40 | 06/11/06 | 33791 | Sec | U |
| CO-58 | 2007 | -2.93E-01 | 2.35E+00 | 3.87E+00 | pCi/L | | 3078.23 | ml | 05/26/06 09:40 | 06/11/06 | 33791 | Sec | U |
| FE-59 | 2007 | 4.47E+00 | 4.72E+00 | 8.19E+00 | pCi/L | | 3078.23 | ml | 05/26/06 09:40 | 06/11/06 | 33791 | Sec | U |
| CO-60 | 2007 | 5.85E-01 | 2.15E+00 | 3.58E+00 | pCi/L | | 3078.23 | ml | 05/26/06 09:40 | 06/11/06 | 33791 | Sec | U |
| ZN-65 | 2007 | 4.51E-01 | 4.39E+00 | 7.32E+00 | pCi/L | | 3078.23 | ml | 05/26/06 09:40 | 06/11/06 | 33791 | Sec | U |
| NB-95 | 2007 | 1.77E-01 | 2.30E+00 | 3.83E+00 | pCi/L | | 3078.23 | ml | 05/26/06 09:40 | 06/11/06 | 33791 | Sec | U |
| ZR-95 | 2007 | 1.13E+00 | 4.14E+00 | 6.94E+00 | pCi/L | | 3078.23 | ml | 05/26/06 09:40 | 06/11/06 | 33791 | Sec | U |
| CS-134 | 2007 | 4.05E+00 | 4.06E+00 | 3.76E+00 | pCi/L | | 3078.23 | ml | 05/26/06 09:40 | 06/11/06 | 33791 | Sec | U |
| CS-137 | 2007 | 2.49E+00 | 2.28E+00 | 3.87E+00 | pCi/L | | 3078.23 | ml | 05/26/06 09:40 | 06/11/06 | 33791 | Sec | U |
| BA-140 | 2007 | -1.04E+01 | 1.77E+01 | 2.86E+01 | pCi/L | | 3078.23 | ml | 05/26/06 09:40 | 06/11/06 | 33791 | Sec | U |
| LA-140 | 2007 | -4.99E-01 | 5.41E+00 | 8.89E+00 | pCi/L | | 3078.23 | ml | 05/26/06 09:40 | 06/11/06 | 33791 | Sec | U |

Flag Values

U = Compound/Analyte not detected or less than 3 sigma
+ = Activity concentration exceeds MDC and 3 sigma; peak identified(gamma only)
U* = Compound/Analyte not detected. Peak not identified, but forced activity concentration exceeds MDC and 3 sigma
High = Activity concentration exceeds customer reporting value
Spec = MDC exceeds customer technical specification
L = Low recovery
H = High recovery

Bolded text indicates reportable value.

No = Peak not identified in gamma spectrum
Yes = Peak identified in gamma spectrum
**** Results are reported on an as received basis unless otherwise noted

MDC - Minimum Detectable Concentration

Report of Analysis

07/19/06 16:23

L28845

Conestoga-Rovers & Associates

EX001-3ESPDRES-06

Kathy Shaw

| Sample ID: WG-DN-MW-DN-103S-052606-JH-011 | | | | Collect Start: 05/26/2006 10:00 | | | | Matrix: Ground Water | | | | (WG) | | | |
|---|------|---------------|---------------------|---------------------------------|-------|-------|----------------|----------------------|----------------|------------|------------|-------------|-------------|--|--|
| Station: | | | | Collect Stop: | | | | Volume: | | | | | | | |
| Description: | | | | Receive Date: 06/05/2006 | | | | % Moisture: | | | | | | | |
| LIMS Number: L28845-2 | | | | | | | | | | | | | | | |
| Radionuclide | SOP# | Activity Conc | Uncertainty 2 Sigma | MDC | Units | Run # | Aliquot Volume | Aliquot Units | Reference Date | Count Date | Count Time | Count Units | Flag Values | | |
| H-3 | 2010 | -4.49E+02 | 9.60E+01 | 1.83E+02 | pCi/L | | 10 | ml | | 06/11/06 | 135 | M | U | | |
| TOTAL SR | 2018 | 1.46E+00 | 8.03E-01 | 1.38E+00 | pCi/L | | 450 | ml | 05/26/06 10:00 | 06/21/06 | 100 | M | + | | |
| MN-54 | 2007 | 2.91E+00 | 1.85E+00 | 3.26E+00 | pCi/L | | 3084.13 | ml | 05/26/06 10:00 | 06/12/06 | 30078 | Sec | U | | |
| CO-58 | 2007 | -9.72E-01 | 2.23E+00 | 3.59E+00 | pCi/L | | 3084.13 | ml | 05/26/06 10:00 | 06/12/06 | 30078 | Sec | U | | |
| FE-59 | 2007 | 4.53E+00 | 4.66E+00 | 8.05E+00 | pCi/L | | 3084.13 | ml | 05/26/06 10:00 | 06/12/06 | 30078 | Sec | U | | |
| CO-60 | 2007 | 1.01E+00 | 2.44E+00 | 3.65E+00 | pCi/L | | 3084.13 | ml | 05/26/06 10:00 | 06/12/06 | 30078 | Sec | U | | |
| ZN-65 | 2007 | 5.37E+00 | 5.01E+00 | 7.50E+00 | pCi/L | | 3084.13 | ml | 05/26/06 10:00 | 06/12/06 | 30078 | Sec | U | | |
| NB-95 | 2007 | 2.58E+00 | 2.20E+00 | 3.81E+00 | pCi/L | | 3084.13 | ml | 05/26/06 10:00 | 06/12/06 | 30078 | Sec | U | | |
| ZR-95 | 2007 | -3.12E+00 | 3.82E+00 | 6.07E+00 | pCi/L | | 3084.13 | ml | 05/26/06 10:00 | 06/12/06 | 30078 | Sec | U | | |
| CS-134 | 2007 | 2.54E+00 | 4.10E+00 | 3.27E+00 | pCi/L | | 3084.13 | ml | 05/26/06 10:00 | 06/12/06 | 30078 | Sec | U | | |
| CS-137 | 2007 | 7.08E-02 | 2.02E+00 | 3.29E+00 | pCi/L | | 3084.13 | ml | 05/26/06 10:00 | 06/12/06 | 30078 | Sec | U | | |
| BA-140 | 2007 | 2.79E+00 | 1.54E+01 | 2.56E+01 | pCi/L | | 3084.13 | ml | 05/26/06 10:00 | 06/12/06 | 30078 | Sec | U | | |
| LA-140 | 2007 | 2.37E+00 | 5.75E+00 | 9.80E+00 | pCi/L | | 3084.13 | ml | 05/26/06 10:00 | 06/12/06 | 30078 | Sec | U | | |

Flag Values

= Compound/Analyte not detected or less than 3 sigma
 U = Activity concentration exceeds MDC and 3 sigma; peak identified(gamma only)
 U* = Compound/Analyte not detected. Peak not identified, but forced activity concentration exceeds MDC and 3 sigma
 High = Activity concentration exceeds customer reporting value
 Spec = MDC exceeds customer technical specification
 L = Low recovery
 H = High recovery

Bolded text indicates reportable value.

No = Peak not identified in gamma spectrum
 Yes = Peak identified in gamma spectrum
 **** Results are reported on an as received basis unless otherwise noted

MDC - Minimum Detectable Concentration

Report of Analysis

07/19/06 16:23

L28845

Conestoga-Rovers & Associates

EX001-3ESPDRES-06

Kathy Shaw

| Sample ID: WG-DN-MW-DN-1031-052606-JH-012 | | | | Collect Start: 05/26/2006 11:05 | | | | Matrix: Ground Water | | | | (WG) | |
|--|------|---------------|---------------------|---------------------------------|-------|-------|----------------|----------------------|----------------|------------|------------|-------------|-------------|
| Station: | | | | Collect Stop: | | | | Volume: | | | | | |
| Description: | | | | Receive Date: 06/05/2006 | | | | % Moisture: | | | | | |
| LJMS Number: L28845-3 | | | | | | | | | | | | | |
| Radionuclide | SOP# | Activity Conc | Uncertainty 2 Sigma | MDC | Units | Run # | Aliquot Volume | Aliquot Units | Reference Date | Count Date | Count Time | Count Units | Flag Values |
| H-3 | 2010 | 8.11E+01 | 1.11E+02 | 1.79E+02 | pCi/L | | 10 | ml | | 06/11/06 | 135 | M | U |
| TOTAL SR | 2018 | -2.55E-01 | 6.64E-01 | 1.41E+00 | pCi/L | | 450 | ml | 05/26/06 11:05 | 06/20/06 | 120 | M | U |
| MN-54 | 2007 | 1.77E+00 | 1.81E+00 | 3.09E+00 | pCi/L | | 3100.89 | ml | 05/26/06 11:05 | 06/12/06 | 30464 | Sec | U |
| CO-58 | 2007 | -1.10E+00 | 2.02E+00 | 3.25E+00 | pCi/L | | 3100.89 | ml | 05/26/06 11:05 | 06/12/06 | 30464 | Sec | No |
| FE-59 | 2007 | 5.62E+00 | 4.33E+00 | 7.56E+00 | pCi/L | | 3100.89 | ml | 05/26/06 11:05 | 06/12/06 | 30464 | Sec | No |
| CO-60 | 2007 | 3.02E-01 | 1.82E+00 | 3.03E+00 | pCi/L | | 3100.89 | ml | 05/26/06 11:05 | 06/12/06 | 30464 | Sec | No |
| ZN-65 | 2007 | 1.95E+00 | 3.95E+00 | 6.64E+00 | pCi/L | | 3100.89 | ml | 05/26/06 11:05 | 06/12/06 | 30464 | Sec | No |
| NB-95 | 2007 | 1.32E+00 | 1.99E+00 | 3.39E+00 | pCi/L | | 3100.89 | ml | 05/26/06 11:05 | 06/12/06 | 30464 | Sec | No |
| ZR-95 | 2007 | -1.04E+00 | 3.51E+00 | 5.75E+00 | pCi/L | | 3100.89 | ml | 05/26/06 11:05 | 06/12/06 | 30464 | Sec | No |
| CS-134 | 2007 | 2.12E+00 | 2.90E+00 | 3.07E+00 | pCi/L | | 3100.89 | ml | 05/26/06 11:05 | 06/12/06 | 30464 | Sec | No |
| CS-137 | 2007 | -1.25E+00 | 2.13E+00 | 3.12E+00 | pCi/L | | 3100.89 | ml | 05/26/06 11:05 | 06/12/06 | 30464 | Sec | No |
| BA-140 | 2007 | 1.02E+01 | 1.49E+01 | 2.54E+01 | pCi/L | | 3100.89 | ml | 05/26/06 11:05 | 06/12/06 | 30464 | Sec | No |
| LA-140 | 2007 | -1.27E-01 | 5.18E+00 | 8.57E+00 | pCi/L | | 3100.89 | ml | 05/26/06 11:05 | 06/12/06 | 30464 | Sec | No |

Flag Values

U = Compound/Analyte not detected or less than 3 sigma
 + = Activity concentration exceeds MDC and 3 sigma, peak identified (gamma only)
 U* = Compound/Analyte not detected. Peak not identified, but forced activity concentration exceeds MDC and 3 sigma
 High = Activity concentration exceeds customer reporting value
 Spec = MDC exceeds customer technical specification
 L = Low recovery
 H = High recovery

Bolded text indicates reportable value.

No = Peak not identified in gamma spectrum
 Yes = Peak identified in gamma spectrum
 **** Results are reported on an as received basis unless otherwise noted

MDC - Minimum Detectable Concentration

Report of Analysis

07/19/06 16:23

L28845

Conestoga-Rovers & Associates

EX001-3ESPDRES-06

Kathy Shaw

| Sample ID: WG-DN-MW-DN-106S-052606-JH-013 | | | | | | | | | | Collect Start: 05/26/2006 14:00 | | | | Matrix: Ground Water | | (WG) |
|---|------|---------------|---------------------|----------|-------|-------|----------------|---------------|----------------|---------------------------------|------------|-------------|-------------|----------------------|--|------|
| Station: | | | | | | | | | | Collect Stop: | | | | Volume: | | |
| Description: | | | | | | | | | | Receive Date: 06/05/2006 | | | | % Moisture: | | |
| LIMS Number: L28845-4 | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | |
| Radionuclide | SOP# | Activity Conc | Uncertainty 2 Sigma | MDC | Units | Run # | Aliquot Volume | Aliquot Units | Reference Date | Count Date | Count Time | Count Units | Flag Values | | | |
| H-3 | 2010 | 1.73E+02 | 1.14E+02 | 1.78E+02 | pCi/L | | 10 | ml | | 06/11/06 | 135 | M | U | | | |
| TOTAL SR | 2018 | -8.97E-02 | 5.51E-01 | 1.14E+00 | pCi/L | | 450 | ml | 05/26/06 14:00 | 06/20/06 | 120 | M | U | | | |
| MN-54 | 2007 | 1.08E+00 | 2.72E+00 | 4.61E+00 | pCi/L | | 3065.58 | ml | 05/26/06 14:00 | 06/12/06 | 12062 | Sec | U | | | |
| CO-58 | 2007 | -6.54E-01 | 3.16E+00 | 5.16E+00 | pCi/L | | 3065.58 | ml | 05/26/06 14:00 | 06/12/06 | 12062 | Sec | No | | | |
| FE-59 | 2007 | 9.53E-01 | 6.25E+00 | 1.05E+01 | pCi/L | | 3065.58 | ml | 05/26/06 14:00 | 06/12/06 | 12062 | Sec | U | | | |
| CO-60 | 2007 | -1.78E-01 | 2.65E+00 | 4.30E+00 | pCi/L | | 3065.58 | ml | 05/26/06 14:00 | 06/12/06 | 12062 | Sec | No | | | |
| ZN-65 | 2007 | -1.00E+00 | 6.20E+00 | 1.01E+01 | pCi/L | | 3065.58 | ml | 05/26/06 14:00 | 06/12/06 | 12062 | Sec | U | | | |
| NB-95 | 2007 | -4.95E-02 | 3.06E+00 | 5.08E+00 | pCi/L | | 3065.58 | ml | 05/26/06 14:00 | 06/12/06 | 12062 | Sec | No | | | |
| ZR-95 | 2007 | -1.77E+00 | 5.66E+00 | 9.01E+00 | pCi/L | | 3065.58 | ml | 05/26/06 14:00 | 06/12/06 | 12062 | Sec | U | | | |
| CS-134 | 2007 | 1.53E+00 | 3.12E+00 | 5.24E+00 | pCi/L | | 3065.58 | ml | 05/26/06 14:00 | 06/12/06 | 12062 | Sec | No | | | |
| CS-137 | 2007 | 1.92E+00 | 2.89E+00 | 4.92E+00 | pCi/L | | 3065.58 | ml | 05/26/06 14:00 | 06/12/06 | 12062 | Sec | No | | | |
| BA-140 | 2007 | 1.75E+01 | 2.25E+01 | 3.89E+01 | pCi/L | | 3065.58 | ml | 05/26/06 14:00 | 06/12/06 | 12062 | Sec | U | | | |
| LA-140 | 2007 | 1.30E+00 | 7.33E+00 | 1.23E+01 | pCi/L | | 3065.58 | ml | 05/26/06 14:00 | 06/12/06 | 12062 | Sec | No | | | |

Flag Values

U = Compound/Analyte not detected or less than 3 sigma

+ = Activity concentration exceeds MDC and 3 sigma; peak identified (gamma only)

U* = Compound/Analyte not detected. Peak not identified, but forced activity concentration exceeds MDC and 3 sigma

High = Activity concentration exceeds customer reporting value

Spec = MDC exceeds customer technical specification

L = Low recovery

H = High recovery

Bolded text indicates reportable value.

No = Peak not identified in gamma spectrum

Yes = Peak identified in gamma spectrum

**** Results are reported on an as received basis unless otherwise noted

MDC - Minimum Detectable Concentration

Report of Analysis

07/19/06 16:23

L28845

Conestoga-Rovers & Associates

EX001-3ESPDRES-06

Kathy Shaw

| Sample ID: WG-DN-MW-DN-101S-052606-JL-063 | | Collect Start: 05/26/2006 14:10 | | | | Matrix: Ground Water | | | | (WG) | | | |
|---|------|---------------------------------|---------------------|----------|-------|----------------------|----------------|---------------|----------------|----------------|------------|-------------|-------------|
| Station: | | Collect Stop: | | | | Volume: | | | | | | | |
| Description: | | Receive Date: 06/05/2006 | | | | % Moisture: | | | | | | | |
| LIMS Number: L28845-5 | | | | | | | | | | | | | |
| Radionuclide | SOP# | Activity Conc | Uncertainty 2 Sigma | MDC | Units | Run # | Aliquot Volume | Aliquot Units | Reference Date | Count Date | Count Time | Count Units | Flag Values |
| H-3 | 2010 | 2.20E+02 | 1.14E+02 | 1.78E+02 | pCi/L | | 10 | ml | | 06/11/06 | 135 | M | + |
| TOTAL SR | 2018 | 1.35E+00 | 9.48E-01 | 1.69E+00 | pCi/L | | 450 | ml | | 05/26/06 14:10 | 06/20/06 | 120 | M |
| MN-54 | 2007 | -3.16E-01 | 2.01E+00 | 3.39E+00 | pCi/L | | 3056.2 | ml | | 05/26/06 14:10 | 06/12/06 | 27841 | Sec |
| CO-58 | 2007 | -7.70E-01 | 2.30E+00 | 3.86E+00 | pCi/L | | 3056.2 | ml | | 05/26/06 14:10 | 06/12/06 | 27841 | Sec |
| FE-59 | 2007 | 5.34E+00 | 4.47E+00 | 8.17E+00 | pCi/L | | 3056.2 | ml | | 05/26/06 14:10 | 06/12/06 | 27841 | Sec |
| CO-60 | 2007 | 4.33E-01 | 1.86E+00 | 3.26E+00 | pCi/L | | 3056.2 | ml | | 05/26/06 14:10 | 06/12/06 | 27841 | Sec |
| ZN-65 | 2007 | 7.73E+00 | 5.03E+00 | 8.07E+00 | pCi/L | | 3056.2 | ml | | 05/26/06 14:10 | 06/12/06 | 27841 | Sec |
| NB-95 | 2007 | 2.33E+00 | 2.24E+00 | 3.98E+00 | pCi/L | | 3056.2 | ml | | 05/26/06 14:10 | 06/12/06 | 27841 | Sec |
| ZR-95 | 2007 | -2.33E-01 | 3.93E+00 | 6.68E+00 | pCi/L | | 3056.2 | ml | | 05/26/06 14:10 | 06/12/06 | 27841 | Sec |
| CS-134 | 2007 | 1.16E+01 | 4.58E+00 | 4.41E+00 | pCi/L | | 3056.2 | ml | | 05/26/06 14:10 | 06/12/06 | 27841 | Sec |
| CS-137 | 2007 | 7.85E-01 | 2.17E+00 | 3.75E+00 | pCi/L | | 3056.2 | ml | | 05/26/06 14:10 | 06/12/06 | 27841 | Sec |
| BA-140 | 2007 | 4.94E+00 | 1.79E+01 | 3.02E+01 | pCi/L | | 3056.2 | ml | | 05/26/06 14:10 | 06/12/06 | 27841 | Sec |
| LA-140 | 2007 | 5.02E+00 | 5.21E+00 | 9.66E+00 | pCi/L | | 3056.2 | ml | | 05/26/06 14:10 | 06/12/06 | 27841 | Sec |

Flag Values

U = Compound/Analyte not detected or less than 3 sigma
 + = Activity concentration exceeds MDC and 3 sigma; peak identified(gamma only)
 U* = Compound/Analyte not detected. Peak not identified, but forced activity concentration exceeds MDC and 3 sigma
 High = Activity concentration exceeds customer reporting value
 Spec = MDC exceeds customer technical specification
 L = Low recovery
 H = High recovery

Bolded text indicates reportable value.

No = Peak not identified in gamma spectrum
 Yes = Peak identified in gamma spectrum
 **** Results are reported on an as received basis unless otherwise noted

MDC - Minimum Detectable Concentration

Report of Analysis

07/19/06 16:23

L28845

Conestoga-Rovers & Associates

EX001-3ESPDRES-06

Kathy Shaw

| Sample ID: WG-DN-MW-DN-1011-052606-JL-064 | | | | Collect Start: 05/26/2006 15:35 | | | | Matrix: Ground Water | | | | (WG) | | | |
|---|------|---------------|---------------------|---------------------------------|-------|-------|----------------|----------------------|----------------|----------------|------------|-------------|-------------|--|--|
| Station: | | | | Collect Stop: | | | | Volume: | | | | | | | |
| Description: | | | | Receive Date: 06/05/2006 | | | | % Moisture: | | | | | | | |
| LIMS Number: L28845-6 | | | | | | | | | | | | | | | |
| Radionuclide | SOP# | Activity Conc | Uncertainty 2 Sigma | MDC | Units | Run # | Aliquot Volume | Aliquot Units | Reference Date | Count Date | Count Time | Count Units | Flag Values | | |
| H-3 | 2010 | 4.57E+03 | 2.08E+02 | 1.79E+02 | pCi/L | | 10 | ml | | 06/11/06 | 135 | M | High | | |
| TOTAL SR | 2018 | -4.47E-01 | 9.03E-01 | 1.93E+00 | pCi/L | | 450 | ml | | 05/26/06 15:35 | 06/20/06 | M | | | |
| MN-54 | 2007 | -1.17E+00 | 2.13E+00 | 3.54E+00 | pCi/L | | 3108.09 | ml | | 05/26/06 15:35 | 06/12/06 | Sec | No | | |
| CO-58 | 2007 | -1.20E+00 | 2.47E+00 | 4.12E+00 | pCi/L | | 3108.09 | ml | | 05/26/06 15:35 | 06/12/06 | Sec | No | | |
| FE-59 | 2007 | 3.70E-01 | 4.94E+00 | 8.62E+00 | pCi/L | | 3108.09 | ml | | 05/26/06 15:35 | 06/12/06 | Sec | No | | |
| CO-60 | 2007 | -4.63E-01 | 2.11E+00 | 3.61E+00 | pCi/L | | 3108.09 | ml | | 05/26/06 15:35 | 06/12/06 | Sec | No | | |
| ZN-65 | 2007 | 1.32E+00 | 4.53E+00 | 8.00E+00 | pCi/L | | 3108.09 | ml | | 05/26/06 15:35 | 06/12/06 | Sec | No | | |
| NB-95 | 2007 | 1.23E+00 | 2.53E+00 | 4.43E+00 | pCi/L | | 3108.09 | ml | | 05/26/06 15:35 | 06/12/06 | Sec | No | | |
| ZR-95 | 2007 | -2.44E+00 | 4.31E+00 | 7.18E+00 | pCi/L | | 3108.09 | ml | | 05/26/06 15:35 | 06/12/06 | Sec | No | | |
| CS-134 | 2007 | 5.65E+00 | 4.16E+00 | 4.29E+00 | pCi/L | | 3108.09 | ml | | 05/26/06 15:35 | 06/12/06 | Sec | No | | |
| CS-137 | 2007 | 2.51E+00 | 2.40E+00 | 4.29E+00 | pCi/L | | 3108.09 | ml | | 05/26/06 15:35 | 06/12/06 | Sec | No | | |
| BA-140 | 2007 | -1.43E+01 | 1.95E+01 | 3.17E+01 | pCi/L | | 3108.09 | ml | | 05/26/06 15:35 | 06/12/06 | Sec | No | | |
| LA-140 | 2007 | -2.37E+00 | 6.02E+00 | 1.03E+01 | pCi/L | | 3108.09 | ml | | 05/26/06 15:35 | 06/12/06 | Sec | No | | |
| TH-228 | 2007 | 8.28E+00 | 4.88E+00 | 7.17E+00 | pCi/L | | 3108.09 | ml | | 05/26/06 15:35 | 06/12/06 | Sec | Yes | | |

Flag Values

U = Compound/Analyte not detected or less than 3 sigma
 + = Activity concentration exceeds MDC and 3 sigma; peak identified(gamma only)
 U* = Compound/Analyte not detected. Peak not identified, but forced activity concentration exceeds MDC and 3 sigma
 High = Activity concentration exceeds customer reporting value
 Spec = MDC exceeds customer technical specification
 L = Low recovery
 H = High recovery

Bolded text indicates reportable value.

No = Peak not identified in gamma spectrum
 Yes = Peak identified in gamma spectrum
 **** Results are reported on an as received basis unless otherwise noted

MDC - Minimum Detectable Concentration

Report of Analysis

07/19/06 16:23

L28845

Conestoga-Rovers & Associates

EX001-3ESPDRES-06

Kathy Shaw

| Sample ID: WG-DN-MW-DN-1081-052606-JL-065 | | | | Collect Start: 05/26/2006 17:00 | | | | Matrix: Ground Water | | | | (WG) | | | |
|---|------|---------------|---------------------|---------------------------------|-------|-------|----------------|----------------------|----------------|------------|------------|-------------|-------------|--|--|
| Station: | | | | Collect Stop: | | | | Volume: | | | | | | | |
| Description: | | | | Receive Date: 06/05/2006 | | | | % Moisture: | | | | | | | |
| LIMS Number: L28845-7 | | | | | | | | | | | | | | | |
| Radionuclide | SOP# | Activity Conc | Uncertainty 2 Sigma | MDC | Units | Run # | Aliquot Volume | Aliquot Units | Reference Date | Count Date | Count Time | Count Units | Flag Values | | |
| H-3 | 2010 | 1.59E+02 | 1.12E+02 | 1.76E+02 | pCi/L | | 10 | ml | | 06/11/06 | 135 | M | U | | |
| SR-90 | 2019 | 4.37E+00 | 6.60E-01 | 8.21E-01 | pCi/L | | 450 | ml | 05/26/06 17:00 | 07/01/06 | 400 | M | + | | |
| SR-90 | 2019 | 2.72E+00 | 1.29E+00 | 1.79E+00 | pCi/L | R1 | 450 | ml | 05/26/06 17:00 | 07/19/06 | 100 | M | + | | |
| TOTAL SR | 2018 | 4.42E+00 | 1.23E+00 | 1.77E+00 | pCi/L | | 450 | ml | 05/26/06 17:00 | 06/21/06 | 100 | M | + | | |
| TOTAL SR | 2018 | 3.39E+00 | 7.74E-01 | 1.06E+00 | pCi/L | R1 | 450 | ml | 05/26/06 17:00 | 07/14/06 | 120 | M | + | | |
| MN-54 | 2007 | 1.03E+00 | 2.28E+00 | 3.87E+00 | pCi/L | | 3058.37 | ml | 05/26/06 17:00 | 06/12/06 | 16511 | Sec | U | | |
| CO-58 | 2007 | -1.43E+00 | 2.49E+00 | 4.00E+00 | pCi/L | | 3058.37 | ml | 05/26/06 17:00 | 06/12/06 | 16511 | Sec | U | | |
| FE-59 | 2007 | 2.40E+00 | 5.26E+00 | 8.97E+00 | pCi/L | | 3058.37 | ml | 05/26/06 17:00 | 06/12/06 | 16511 | Sec | U | | |
| CO-60 | 2007 | 7.64E-01 | 2.28E+00 | 3.82E+00 | pCi/L | | 3058.37 | ml | 05/26/06 17:00 | 06/12/06 | 16511 | Sec | U | | |
| ZN-65 | 2007 | 1.45E+01 | 5.91E+00 | 9.95E+00 | pCi/L | | 3058.37 | ml | 05/26/06 17:00 | 06/12/06 | 16511 | Sec | U* | | |
| NB-95 | 2007 | 5.40E-01 | 2.69E+00 | 4.51E+00 | pCi/L | | 3058.37 | ml | 05/26/06 17:00 | 06/12/06 | 16511 | Sec | U | | |
| ZR-95 | 2007 | 6.59E-01 | 4.90E+00 | 8.01E+00 | pCi/L | | 3058.37 | ml | 05/26/06 17:00 | 06/12/06 | 16511 | Sec | U | | |
| CS-134 | 2007 | 5.25E+00 | 4.11E+00 | 4.79E+00 | pCi/L | | 3058.37 | ml | 05/26/06 17:00 | 06/12/06 | 16511 | Sec | U | | |
| CS-137 | 2007 | 8.96E-03 | 2.57E+00 | 4.21E+00 | pCi/L | | 3058.37 | ml | 05/26/06 17:00 | 06/12/06 | 16511 | Sec | U | | |
| BA-140 | 2007 | 2.67E+00 | 1.96E+01 | 3.28E+01 | pCi/L | | 3058.37 | ml | 05/26/06 17:00 | 06/12/06 | 16511 | Sec | U | | |
| LA-140 | 2007 | 2.50E-01 | 6.29E+00 | 1.04E+01 | pCi/L | | 3058.37 | ml | 05/26/06 17:00 | 06/12/06 | 16511 | Sec | U | | |

Flag Values

U = Compound/Analyte not detected or less than 3 sigma
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 High = Activity concentration exceeds customer reporting value
 Spec = MDC exceeds customer technical specification
 L = Low recovery
 H = High recovery

Bolded text indicates reportable value.

No = Peak not identified in gamma spectrum
 Yes = Peak identified in gamma spectrum
 **** Results are reported on an as received basis unless otherwise noted

MDC - Minimum Detectable Concentration

Report of Analysis

07/19/06 16:23

L28845

Conestoga-Rovers & Associates

EX001-3ESPDRES-06

Kathy Shaw

| Sample ID: WG-DN-DSP-DN-123-052606-JL-060 | | | | Collect Start: 05/26/2006 10:10 | | | Matrix: Ground Water | | | (WG) | | | |
|---|------|---------------|---------------------|---------------------------------|-------|-------|----------------------|---------------|----------------|------------|------------|-------------|-------------|
| Station: | | | | Collect Stop: | | | Volume: | | | | | | |
| Description: | | | | Receive Date: 06/05/2006 | | | % Moisture: | | | | | | |
| LIMS Number: L28845-8 | | | | | | | | | | | | | |
| Radionuclide | SOP# | Activity Conc | Uncertainty 2 Sigma | MDC | Units | Run # | Aliquot Volume | Aliquot Units | Reference Date | Count Date | Count Time | Count Units | Flag Values |
| H-3 | 2010 | 1.31E+04 | 3.18E+02 | 1.78E+02 | pCi/L | | 10 | ml | | 06/12/06 | 135 | M | + High |
| TOTAL SR | 2018 | 1.48E+00 | 8.85E-01 | 1.55E+00 | pCi/L | | 450 | ml | 05/26/06 10:10 | 06/20/06 | 120 | M | U |
| MN-54 | 2007 | -8.17E-02 | 2.45E+00 | 4.04E+00 | pCi/L | | 3127.73 | ml | 05/26/06 10:10 | 06/12/06 | 21600 | Sec | U No |
| CO-58 | 2007 | 4.77E-02 | 2.81E+00 | 4.65E+00 | pCi/L | | 3127.73 | ml | 05/26/06 10:10 | 06/12/06 | 21600 | Sec | U No |
| FE-59 | 2007 | 3.91E+00 | 5.86E+00 | 1.01E+01 | pCi/L | | 3127.73 | ml | 05/26/06 10:10 | 06/12/06 | 21600 | Sec | U No |
| CO-60 | 2007 | 1.46E+00 | 2.62E+00 | 4.46E+00 | pCi/L | | 3127.73 | ml | 05/26/06 10:10 | 06/12/06 | 21600 | Sec | U No |
| ZN-65 | 2007 | 3.33E+00 | 5.46E+00 | 9.39E+00 | pCi/L | | 3127.73 | ml | 05/26/06 10:10 | 06/12/06 | 21600 | Sec | U No |
| NB-95 | 2007 | -1.91E+00 | 2.93E+00 | 4.69E+00 | pCi/L | | 3127.73 | ml | 05/26/06 10:10 | 06/12/06 | 21600 | Sec | U No |
| ZR-95 | 2007 | -1.51E+00 | 5.27E+00 | 8.61E+00 | pCi/L | | 3127.73 | ml | 05/26/06 10:10 | 06/12/06 | 21600 | Sec | U No |
| CS-134 | 2007 | 5.03E+00 | 4.15E+00 | 4.50E+00 | pCi/L | | 3127.73 | ml | 05/26/06 10:10 | 06/12/06 | 21600 | Sec | U No |
| CS-137 | 2007 | -2.53E+00 | 2.62E+00 | 4.05E+00 | pCi/L | | 3127.73 | ml | 05/26/06 10:10 | 06/12/06 | 21600 | Sec | U No |
| BA-140 | 2007 | -9.58E+00 | 2.23E+01 | 3.62E+01 | pCi/L | | 3127.73 | ml | 05/26/06 10:10 | 06/12/06 | 21600 | Sec | U No |
| LA-140 | 2007 | 8.75E-01 | 7.25E+00 | 1.21E+01 | pCi/L | | 3127.73 | ml | 05/26/06 10:10 | 06/12/06 | 21600 | Sec | U No |

Flag Values

U = Compound/Analyte not detected or less than 3 sigma
 + = Activity concentration exceeds MDC and 3 sigma; peak identified(gamma only)
 U* = Compound/Analyte not detected. Peak not identified, but forced activity concentration exceeds MDC and 3 sigma
 High = Activity concentration exceeds customer reporting value
 Spec = MDC exceeds customer technical specification
 L = Low recovery
 H = High recovery

Bolded text indicates reportable value.

No = Peak not identified in gamma spectrum
 Yes = Peak identified in gamma spectrum
 **** Results are reported on an as received basis unless otherwise noted

MDC - Minimum Detectable Concentration

Report of Analysis

07/19/06 16:23

L28845

Conestoga-Rovers & Associates

EX001-3ESPDRES-06

Kathy Shaw

| Sample ID: WG-DN-DSP-DN-123-052606-JL-061 | | | | Collect Start: 05/26/2006 10:20 | | | | Matrix: Ground Water | | | | (WG) | | | |
|---|------|---------------|---------------------|---------------------------------|-------|-------|----------------|----------------------|----------------|------------|------------|-------------|-------------|--|--|
| Station: | | | | Collect Stop: | | | | Volume: | | | | | | | |
| Description: | | | | Receive Date: 06/05/2006 | | | | % Moisture: | | | | | | | |
| LIMS Number: L28845-9 | | | | | | | | | | | | | | | |
| Radionuclide | SOP# | Activity Conc | Uncertainty 2 Sigma | MDC | Units | Run # | Aliquot Volume | Aliquot Units | Reference Date | Count Date | Count Time | Count Units | Flag Values | | |
| H-3 | 2010 | 1.32E+04 | 3.19E+02 | 1.78E+02 | pCi/L | | 10 | ml | | 06/12/06 | 135 | M | + High | | |
| TOTAL SR | 2018 | 7.32E-01 | 8.71E-01 | 1.64E+00 | pCi/L | | 450 | ml | 05/26/06 10:20 | 06/20/06 | 120 | M | U | | |
| K-40 | 2007 | 7.50E+01 | 4.87E+01 | 3.94E+01 | pCi/L | | 3064.03 | ml | 05/26/06 10:20 | 06/12/06 | 21600 | Sec | + Yes | | |
| MN-54 | 2007 | -7.12E-01 | 2.56E+00 | 4.12E+00 | pCi/L | | 3064.03 | ml | 05/26/06 10:20 | 06/12/06 | 21600 | Sec | U No | | |
| CO-58 | 2007 | -1.94E-01 | 2.82E+00 | 4.60E+00 | pCi/L | | 3064.03 | ml | 05/26/06 10:20 | 06/12/06 | 21600 | Sec | U No | | |
| FE-59 | 2007 | -1.44E+00 | 6.06E+00 | 9.89E+00 | pCi/L | | 3064.03 | ml | 05/26/06 10:20 | 06/12/06 | 21600 | Sec | U No | | |
| CO-60 | 2007 | 5.95E-01 | 2.48E+00 | 4.15E+00 | pCi/L | | 3064.03 | ml | 05/26/06 10:20 | 06/12/06 | 21600 | Sec | U No | | |
| ZN-65 | 2007 | 1.48E+00 | 5.47E+00 | 9.21E+00 | pCi/L | | 3064.03 | ml | 05/26/06 10:20 | 06/12/06 | 21600 | Sec | U No | | |
| NB-95 | 2007 | 6.30E-01 | 2.93E+00 | 4.87E+00 | pCi/L | | 3064.03 | ml | 05/26/06 10:20 | 06/12/06 | 21600 | Sec | U No | | |
| ZR-95 | 2007 | 3.05E+00 | 5.01E+00 | 8.50E+00 | pCi/L | | 3064.03 | ml | 05/26/06 10:20 | 06/12/06 | 21600 | Sec | U No | | |
| CS-134 | 2007 | -7.06E-01 | 3.01E+00 | 4.28E+00 | pCi/L | | 3064.03 | ml | 05/26/06 10:20 | 06/12/06 | 21600 | Sec | U No | | |
| CS-137 | 2007 | 2.23E+00 | 2.60E+00 | 4.48E+00 | pCi/L | | 3064.03 | ml | 05/26/06 10:20 | 06/12/06 | 21600 | Sec | U No | | |
| BA-140 | 2007 | 5.92E+00 | 2.16E+01 | 3.55E+01 | pCi/L | | 3064.03 | ml | 05/26/06 10:20 | 06/12/06 | 21600 | Sec | U No | | |
| LA-140 | 2007 | 3.95E+00 | 7.15E+00 | 1.24E+01 | pCi/L | | 3064.03 | ml | 05/26/06 10:20 | 06/12/06 | 21600 | Sec | U No | | |

Flag Values

U = Compound/Analyte not detected or less than 3 sigma
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 U* = Compound/Analyte not detected. Peak not identified, but forced activity concentration exceeds MDC and 3 sigma
 High = Activity concentration exceeds customer reporting value
 Spec = MDC exceeds customer technical specification
 L = Low recovery
 H = High recovery

Bolded text indicates reportable value.

No = Peak not identified in gamma spectrum
 Yes = Peak identified in gamma spectrum
 **** Results are reported on an as received basis unless otherwise noted

MDC - Minimum Detectable Concentration

Report of Analysis

07/19/06 16:23

L28845

Conestoga-Rovers & Associates

EX001-3ESPDRES-06

Kathy Shaw

| Sample ID: WG-DN-DSP-DN-124-052606-JL-062 | | | | Collect Start: 05/26/2006 12:00 | | | | Matrix: Ground Water | | | | (WG) | | | |
|--|------|---------------|---------------------|---------------------------------|-------|-------|----------------|----------------------|----------------|------------|------------|-------------|-------------|------|----|
| Station: | | | | Collect Stop: | | | | Volume: | | | | | | | |
| Description: | | | | Receive Date: 06/05/2006 | | | | % Moisture: | | | | | | | |
| LIMS Number: L28845-10 | | | | | | | | | | | | | | | |
| Radionuclide | SOP# | Activity Conc | Uncertainty 2 Sigma | MDC | Units | Run # | Aliquot Volume | Aliquot Units | Reference Date | Count Date | Count Time | Count Units | Flag Values | | |
| H-3 | 2010 | 1.00E+04 | 2.84E+02 | 1.79E+02 | pCi/L | | 10 | ml | | 06/12/06 | 135 | M | + | High | |
| TOTAL SR | 2018 | 4.00E-01 | 6.42E-01 | 1.23E+00 | pCi/L | | 450 | ml | 05/26/06 12:00 | 06/20/06 | 120 | M | U | | |
| MN-54 | 2007 | -8.31E-01 | 2.83E+00 | 4.81E+00 | pCi/L | | 2992.17 | ml | 05/26/06 12:00 | 06/12/06 | 12452 | Sec | U | | No |
| CO-58 | 2007 | -1.08E+00 | 3.26E+00 | 5.53E+00 | pCi/L | | 2992.17 | ml | 05/26/06 12:00 | 06/12/06 | 12452 | Sec | U | | No |
| FE-59 | 2007 | 4.89E+00 | 6.74E+00 | 1.25E+01 | pCi/L | | 2992.17 | ml | 05/26/06 12:00 | 06/12/06 | 12452 | Sec | U | | No |
| CO-60 | 2007 | 1.61E+00 | 2.85E+00 | 5.28E+00 | pCi/L | | 2992.17 | ml | 05/26/06 12:00 | 06/12/06 | 12452 | Sec | U | | No |
| ZN-65 | 2007 | 7.81E+00 | 6.48E+00 | 1.23E+01 | pCi/L | | 2992.17 | ml | 05/26/06 12:00 | 06/12/06 | 12452 | Sec | U | | No |
| NB-95 | 2007 | 4.76E+00 | 3.47E+00 | 6.47E+00 | pCi/L | | 2992.17 | ml | 05/26/06 12:00 | 06/12/06 | 12452 | Sec | U | | No |
| ZR-95 | 2007 | -3.55E+00 | 5.92E+00 | 9.88E+00 | pCi/L | | 2992.17 | ml | 05/26/06 12:00 | 06/12/06 | 12452 | Sec | U | | No |
| CS-134 | 2007 | 1.55E+00 | 5.14E+00 | 5.85E+00 | pCi/L | | 2992.17 | ml | 05/26/06 12:00 | 06/12/06 | 12452 | Sec | U | | No |
| CS-137 | 2007 | 3.23E-02 | 3.18E+00 | 5.53E+00 | pCi/L | | 2992.17 | ml | 05/26/06 12:00 | 06/12/06 | 12452 | Sec | U | | No |
| BA-140 | 2007 | 1.38E+00 | 2.58E+01 | 4.39E+01 | pCi/L | | 2992.17 | ml | 05/26/06 12:00 | 06/12/06 | 12452 | Sec | U | | No |
| LA-140 | 2007 | 4.08E+00 | 7.84E+00 | 1.48E+01 | pCi/L | | 2992.17 | ml | 05/26/06 12:00 | 06/12/06 | 12452 | Sec | U | | No |

Flag Values

U = Compound/Analyte not detected or less than 3 sigma
 + = Activity concentration exceeds MDC and 3 sigma; peak identified (gamma only)
 U* = Compound/Analyte not detected. Peak not identified, but forced activity concentration exceeds MDC and 3 sigma
 High = Activity concentration exceeds customer reporting value
 Spec = MDC exceeds customer technical specification
 L = Low recovery
 H = High recovery

Bolded text indicates reportable value.

No = Peak not identified in gamma spectrum
 Yes = Peak identified in gamma spectrum
 **** Results are reported on an as received basis unless otherwise noted

MDC - Minimum Detectable Concentration

QC Results Summary

QC Summary Report

for L28845

7/19/2006 4:22:19PM



H-3

Method Blank Summary

| <u>TBE Sample ID</u> | <u>Radionuclide</u> | <u>Matrix</u> | <u>Count Date/Time</u> | <u>Blank Result</u> | <u>Units</u> | <u>Qualifier</u> | <u>P/F</u> |
|----------------------|---------------------|---------------|------------------------|---------------------|--------------|------------------|------------|
| WG4110-1 | H-3 | WO | 06/11/2006 4:13 | < 1.700E+00 | pCi/Total | U | P |

LCS Sample Summary

| <u>TBE Sample ID</u> | <u>Radionuclide</u> | <u>Matrix</u> | <u>Count Date/Time</u> | <u>Spike Value</u> | <u>LCS Result</u> | <u>Units</u> | <u>Spike Recovery</u> | <u>Range</u> | <u>Qualifier</u> | <u>P/F</u> |
|----------------------|---------------------|---------------|------------------------|--------------------|-------------------|--------------|-----------------------|--------------|------------------|------------|
| WG4110-2 | H-3 | WO | 06/11/2006 5:16 | 5.05E+002 | 4.930E+02 | pCi/Total | 97.7 | 70-130 | + | P |

Spike ID: 3H-041706-1
Spike conc: 5.05E+002
Spike Vol: 1.00E+000

Duplicate Summary

| <u>TBE Sample ID</u> | <u>Radionuclide</u> | <u>Matrix</u> | <u>Count Date/Time</u> | <u>Original Result</u> | <u>DUP Result</u> | <u>Units</u> | <u>RPD</u> | <u>Range</u> | <u>Qualifier</u> | <u>P/F</u> |
|----------------------|---------------------|---------------|------------------------|------------------------|-------------------|--------------|------------|--------------|------------------|------------|
| WG4110-3 L28846-1 | H-3 | WG | 06/11/2006 5:35 | 3.050E+02 | 2.380E+02 | pCi/L | | <30 | * | NE |

L28845 H-3

Associated Samples for

| <u>SAMPLENUM</u> | <u>CLIENTID</u> |
|------------------|--------------------------------|
| L28845-1 | WG-DN-MW-DN-103S-052606-JH-010 |
| L28845-2 | WG-DN-MW-DN-103S-052606-JH-011 |
| L28845-3 | WG-DN-MW-DN-103I-052606-JH-012 |
| L28845-4 | WG-DN-MW-DN-106S-052606-JH-013 |
| L28845-5 | WG-DN-MW-DN-101S-052606-JL-063 |
| L28845-6 | WG-DN-MW-DN-101I-052606-JL-064 |
| L28845-7 | WG-DN-MW-DN-108I-052606-JL-065 |
| L28845-8 | WG-DN-DSP-DN-123-052606-JL-060 |
| L28845-9 | WG-DN-DSP-DN-123-052606-JL-061 |
| L28845-10 | WG-DN-DSP-DN-124-052606-JL-062 |

+ Positive Result
U Compound/analyte was analyzed, peak not identified and/or not detected above MDC
* < 5 times the MDC are not evaluated
** Nuclide not detected
*** Spiking level < 5 times activity
P Pass
F Fail
NE Not evaluated

QC Summary Report

for L28845

7/19/2006 4:22:19PM



SR-90

Method Blank Summary

| <u>TBE Sample ID</u> | <u>Radionuclide</u> | <u>Matrix</u> | <u>Count Date/Time</u> | <u>Blank Result</u> | <u>Units</u> | <u>Qualifier</u> | <u>P/F</u> |
|----------------------|---------------------|---------------|------------------------|---------------------|--------------|------------------|------------|
| WG4230-1 | SR-90 | WO | 07/14/2006 13:53 | < 5.950E-01 | pCi/Total | U | P |

LCS Sample Summary

| <u>TBE Sample ID</u> | <u>Radionuclide</u> | <u>Matrix</u> | <u>Count Date/Time</u> | <u>Spike Value</u> | <u>LCS Result</u> | <u>Units</u> | <u>Spike Recovery</u> | <u>Range</u> | <u>Qualifier</u> | <u>P/F</u> |
|----------------------|---------------------|---------------|------------------------|--------------------|-------------------|--------------|-----------------------|--------------|------------------|------------|
| WG4230-2 | SR-90 | WO | 07/14/2006 13:53 | 2.11E+002 | 1.800E+02 | pCi/Total | 85.3 | 70-130 | + | P |

Spike ID: 90SR-0406051-1
Spike conc: 2.11E+002
Spike Vol: 1.00E+000

L28845 SR-90

Associated Samples for

| <u>SAMPLENUM</u> | <u>CLIENTID</u> |
|------------------|--------------------------------|
| L28845-1 | WG-DN-MW-DN-103S-052606-JH-010 |
| L28845-2 | WG-DN-MW-DN-103S-052606-JH-011 |
| L28845-3 | WG-DN-MW-DN-103I-052606-JH-012 |
| L28845-4 | WG-DN-MW-DN-106S-052606-JH-013 |
| L28845-5 | WG-DN-MW-DN-101S-052606-JL-063 |
| L28845-6 | WG-DN-MW-DN-101I-052606-JL-064 |
| L28845-7 | WG-DN-MW-DN-108I-052606-JL-065 |
| L28845-8 | WG-DN-DSP-DN-123-052606-JL-060 |
| L28845-9 | WG-DN-DSP-DN-123-052606-JL-061 |
| L28845-10 | WG-DN-DSP-DN-124-052606-JL-062 |

Associated Samples for

| <u>SAMPLENUM</u> | <u>CLIENTID</u> |
|------------------|--------------------------------|
| L28845-7R1 | WG-DN-MW-DN-108I-052606-JL-065 |

+ Positive Result
U Compound/analyte was analyzed, peak not identified and/or not detected above MDC
* < 5 times the MDC are not evaluated
** Nuclide not detected
*** Spiking level < 5 times activity
P Pass
F Fail
NE Not evaluated



TOTAL SR

Method Blank Summary

| <u>TBE Sample ID</u> | <u>Radionuclide</u> | <u>Matrix</u> | <u>Count Date/Time</u> | <u>Blank Result</u> | <u>Units</u> | <u>Qualifier</u> | <u>P/F</u> |
|----------------------|---------------------|---------------|------------------------|---------------------|--------------|------------------|------------|
| WG4162-1 | TOTAL SR | WO | 06/20/2006 20:27 | < 7.860E-01 | pCi/Total | U | P |

LCS Sample Summary

| <u>TBE Sample ID</u> | <u>Radionuclide</u> | <u>Matrix</u> | <u>Count Date/Time</u> | <u>Spike Value</u> | <u>LCS Result</u> | <u>Units</u> | <u>Spike Recovery</u> | <u>Range</u> | <u>Qualifier</u> | <u>P/F</u> |
|----------------------|---------------------|---------------|------------------------|--------------------|-------------------|--------------|-----------------------|--------------|------------------|------------|
| WG4162-2 | TOTAL SR | WO | 06/20/2006 20:27 | 5.84E+001 | 6.250E+01 | pCi/Total | 107.1 | 70-130 | + | P |

Spike ID: 90SR-011905
Spike conc: 2.34E+002
Spike Vol: 2.50E-001

Duplicate Summary

| <u>TBE Sample ID</u> | <u>Radionuclide</u> | <u>Matrix</u> | <u>Count Date/Time</u> | <u>Original Result</u> | <u>DUP Result</u> | <u>Units</u> | <u>RPD</u> | <u>Range</u> | <u>Qualifier</u> | <u>P/F</u> |
|----------------------|---------------------|---------------|------------------------|------------------------|-------------------|--------------|------------|--------------|------------------|------------|
| WG4162-3 | TOTAL SR | WG | 06/20/2006 20:27 | < 1.630E+00 | < 1.570E+00 | pCi/L | | <30 | ** | NE |

L28864-1

+ Positive Result
U Compound/analyte was analyzed, peak not identified and/or not detected above MDC
* < 5 times the MDC are not evaluated
** Nuclide not detected
*** Spiking level < 5 times activity
P Pass
F Fail
NE Not evaluated

Raw Data

Work Order: L28845

Customer: Exelon

Nuclide: H-3

Project : EX001-3ESPDRES-06

| Sample ID | Run Analysis | Reference | Volume/ Aliquot | Scavenge Date/time | Milking Date/time | Mount Weight | Recovery | Count Date/time | Counter ID | Total counts | Sample dt (min) | Bkg counts | Bkg dt (min) | Eff. Factor | Decay & Ingrowth Analyst |
|--------------------------------|--------------|-------------------|--------------------|-----------------------|----------------------|-----------------|----------|--------------------|---------------|-----------------|--------------------|---------------|-----------------|----------------|--------------------------------|
| L28845-1 | H-3 | | 10 ml | | | 0 | | 11-jun-06 09:43 | LS5 | 570 | 135 | 3.73 | 135 | .198 | SO |
| WG-DN-MW-DN-103S-052606-JH-010 | | | | | | | | | | | | | | | |
| Activity: | 1.12E+02 | Error: 1.11E+02 | MDC: 1.77E+02 * | | | 0 | | 11-jun-06 12:02 | LS5 | 247 | 135 | 3.73 | 135 | .191 | SO |
| L28845-2 | H-3 | | 10 ml | | | | | | | | | | | | |
| WG-DN-MW-DN-103S-052606-JH-011 | | | | | | | | | | | | | | | |
| Activity: | -4.49E+02 | Error: 9.6E+01 | MDC: 1.93E+02 * | | | 0 | | 11-jun-06 14:21 | LS5 | 551 | 135 | 3.73 | 135 | .195 | SO |
| L28845-3 | H-3 | | 10 ml | | | | | | | | | | | | |
| WG-DN-MW-DN-103I-052606-JH-012 | | | | | | | | | | | | | | | |
| Activity: | 8.11E+01 | Error: 1.11E+02 | MDC: 1.79E+02 * | | | 0 | | 11-jun-06 16:40 | LS5 | 605 | 135 | 3.73 | 135 | .196 | SO |
| L28845-4 | H-3 | | 10 ml | | | | | | | | | | | | |
| WG-DN-MW-DN-106S-052606-JH-013 | | | | | | | | | | | | | | | |
| Activity: | 1.73E+02 | Error: 1.14E+02 | MDC: 1.78E+02 * | | | 0 | | 11-jun-06 18:58 | LS5 | 633 | 135 | 3.73 | 135 | .197 | SO |
| L28845-5 | H-3 | | 10 ml | | | | | | | | | | | | |
| WG-DN-MW-DN-101S-052606-JL-063 | | | | | | | | | | | | | | | |
| Activity: | 2.2E+02 | * Error: 1.14E+02 | MDC: 1.78E+02 | | | 0 | | 11-jun-06 21:16 | LS5 | 3166 | 135 | 3.73 | 135 | .195 | SO |
| L28845-6 | H-3 | | 10 ml | | | | | | | | | | | | |
| WG-DN-MW-DN-101I-052606-JL-064 | | | | | | | | | | | | | | | |
| Activity: | 4.57E+03 | * Error: 2.08E+02 | MDC: 1.79E+02 | | | 0 | | 11-jun-06 23:34 | LS5 | 598 | 135 | 3.73 | 135 | .199 | SO |
| L28845-7 | H-3 | | 10 ml | | | | | | | | | | | | |
| WG-DN-MW-DN-108I-052606-JL-065 | | | | | | | | | | | | | | | |
| Activity: | 1.59E+02 | Error: 1.12E+02 | MDC: 1.76E+02 * | | | 0 | | 12-jun-06 01:52 | LS5 | 8170 | 135 | 3.73 | 135 | .196 | SO |
| L28845-8 | H-3 | | 10 ml | | | | | | | | | | | | |
| WG-DN-DSP-DN-123-052606-JL-060 | | | | | | | | | | | | | | | |
| Activity: | 1.31E+04 | * Error: 3.19E+02 | MDC: 1.78E+02 | | | 0 | | 12-jun-06 04:11 | LS5 | 8242 | 135 | 3.73 | 135 | .196 | SO |
| L28845-9 | H-3 | | 10 ml | | | | | | | | | | | | |
| WG-DN-DSP-DN-123-052606-JL-061 | | | | | | | | | | | | | | | |
| Activity: | 1.32E+04 | * Error: 3.19E+02 | MDC: 1.78E+02 | | | 0 | | 12-jun-06 06:29 | LS5 | 6348 | 135 | 3.73 | 135 | .195 | SO |
| L28845-10 | H-3 | | 10 ml | | | | | | | | | | | | |
| WG-DN-DSP-DN-124-052606-JL-062 | | | | | | | | | | | | | | | |
| Activity: | 1E+04 | * Error: 2.84E+02 | MDC: 1.79E+02 | | | | | | | | | | | | |

Work Order: L28845

Customer: Exelon

Nuclide: SR-90

Project : EX001-3ESPDRES-06

| S/Sample ID | Run Analysis # | Reference Date/time | Volume/ Aliquot | Scavenge Date/time | Milking Date/time | Mount Weight | Recovery Date/time | Count | Counter ID | Total counts | Sample dt(min) | Bkg counts | Bkg dt(min) | Eff. Factor | Ingrrowth Factor | Decay & Analyst |
|--|----------------|---------------------|--------------------|-----------------------|----------------------|-----------------|-----------------------|--------------------|---------------|-----------------|-------------------|---------------|----------------|----------------|---------------------|--------------------|
| L28845-7 | SR-90 | 26-may-06 17:00 | 450 ml | 20-jun-06 15:00 | 30-jun-06 09:00 | 0.0346 | 102.37 43.01 | 01-Jul-06 01:05 | Y3D | 459 | 400 | 305 | 800 | .498 | .8 | LCB |
| WG-DN-MW-DN-108I-052606-JL-065 | | | | | | | | | | | | | | | | |
| Activity: 4.37E+00 * Error: 6.6E-01 MDC: 8.21E-01 | | | | | | | | | | | | | | | | |
| L28845-7 | R1 SR-90 | 26-may-06 17:00 | 450 ml | 14-jul-06 07:00 | 18-jul-06 09:15 | 0.0359 | 106.21 90.86 | 19-Jul-06 16:51 | X1B | 132 | 100 | 72 | 100 | .49 | .468 | LCB |
| WG-DN-MW-DN-108I-052606-JL-065 | | | | | | | | | | | | | | | | |
| Activity: 2.72E+00 * Error: 1.29E+00 MDC: 1.79E+00 | | | | | | | | | | | | | | | | |

Customer: Exelon

Work Order: L28845

Nuclide: SR-90 (FAST)

Project : EX001-3ESPDRES-06

| Sample ID | Run Analysis | Reference | Volume/ Aliquot | Scavenge | Milking | Mount | Count | Counter | Total | Sample | Bkg | Bkg | Decay & Eff. Ingrowth |
|---|--------------|-----------|--------------------|-----------|-----------|--------|----------|---------|--------|---------|--------|---------|--------------------------|
| Client ID | # | Date/time | | Date/time | Date/time | Weight | Recovery | ID | counts | dt(min) | counts | dt(min) | Factor |
| L28845-1 | TOTAL SR | 26-may-06 | 450 ml | 20-jun-06 | 15:00 | 0 | 80.38 | Y1A | 111 | 120 | 279 | 400 | .341 .998 |
| WG-DN-MW-DN-103S-052606-JH-010 | | | | | | | | | | | | | |
| Activity: 8.33E-01 Error: 7.12E-01 MDC: 1.3E+00 * | | | | | | | | | | | | | |
| L28845-2 | TOTAL SR | 26-may-06 | 450 ml | 20-jun-06 | 15:00 | 0 | 83.06 | Y1A | 111 | 100 | 279 | 400 | .341 .998 |
| WG-DN-MW-DN-103S-052606-JH-011 | | | | | | | | | | | | | |
| Activity: 1.46E+00 * Error: 8.03E-01 MDC: 1.38E+00 | | | | | | | | | | | | | |
| L28845-3 | TOTAL SR | 26-may-06 | 450 ml | 20-jun-06 | 15:00 | 0 | 76.08 | Y1C | 82 | 120 | 300 | 400 | .345 .998 |
| WG-DN-MW-DN-103I-052606-JH-012 | | | | | | | | | | | | | |
| Activity: -2.55E-01 Error: 6.64E-01 MDC: 1.41E+00 * | | | | | | | | | | | | | |
| L28845-4 | TOTAL SR | 26-may-06 | 450 ml | 20-jun-06 | 15:00 | 0 | 90.05 | Y1D | 88 | 120 | 305 | 400 | .362 .998 |
| WG-DN-MW-DN-106S-052606-JH-013 | | | | | | | | | | | | | |
| Activity: -8.97E-02 Error: 5.51E-01 MDC: 1.14E+00 * | | | | | | | | | | | | | |
| L28845-5 | TOTAL SR | 26-may-06 | 450 ml | 20-jun-06 | 15:00 | 0 | 60.48 | Y2A | 118 | 120 | 280 | 400 | .349 .998 |
| WG-DN-MW-DN-101S-052606-JL-063 | | | | | | | | | | | | | |
| Activity: 1.35E+00 Error: 9.48E-01 MDC: 1.69E+00 * | | | | | | | | | | | | | |
| L28845-6 | TOTAL SR | 26-may-06 | 450 ml | 20-jun-06 | 15:00 | 0 | 55.11 | Y2B | 84 | 120 | 315 | 400 | .356 .998 |
| WG-DN-MW-DN-101I-052606-JL-064 | | | | | | | | | | | | | |
| Activity: -4.47E-01 Error: 9.03E-01 MDC: 1.93E+00 * | | | | | | | | | | | | | |
| L28845-7 | TOTAL SR | 26-may-06 | 450 ml | 20-jun-06 | 15:00 | 0 | 62.90 | Y1B | 167 | 100 | 279 | 400 | .351 .998 |
| WG-DN-MW-DN-108I-052606-JL-065 | | | | | | | | | | | | | |
| Activity: 4.42E+00 * Error: 1.23E+00 MDC: 1.77E+00 | | | | | | | | | | | | | |
| L28845-7 R1 | TOTAL SR | 26-may-06 | 450 ml | 14-jul-06 | 07:00 | 0 | 97.04 | X1C | 226 | 120 | 289 | 400 | .354 .997 |
| WG-DN-MW-DN-108I-052606-JL-065 | | | | | | | | | | | | | |
| Activity: 3.39E+00 * Error: 7.74E-01 MDC: 1.06E+00 | | | | | | | | | | | | | |
| L28845-8 | TOTAL SR | 26-may-06 | 450 ml | 20-jun-06 | 15:00 | 0 | 67.74 | Y3A | 129 | 120 | 291 | 400 | .347 .998 |
| WG-DN-DSP-DN-123-052606-JL-060 | | | | | | | | | | | | | |
| Activity: 1.48E+00 Error: 8.85E-01 MDC: 1.55E+00 * | | | | | | | | | | | | | |
| L28845-9 | TOTAL SR | 26-may-06 | 450 ml | 20-jun-06 | 15:00 | 0 | 63.98 | Y3B | 107 | 120 | 292 | 400 | .346 .998 |
| WG-DN-DSP-DN-123-052606-JL-061 | | | | | | | | | | | | | |
| Activity: 7.32E-01 Error: 8.71E-01 MDC: 1.64E+00 * | | | | | | | | | | | | | |
| L28845-10 | TOTAL SR | 26-may-06 | 450 ml | 20-jun-06 | 15:00 | 0 | 79.57 | Y3D | 92 | 120 | 262 | 400 | .352 .998 |
| WG-DN-DSP-DN-124-052606-JL-062 | | | | | | | | | | | | | |
| Activity: 4E-01 Error: 6.42E-01 MDC: 1.23E+00 * | | | | | | | | | | | | | |

Sec. Review: Analyst: LIMS: ✓

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VAX/VMS Teledyne Brown Eng. Laboratory Gamma Report: 12-JUN-2006 09:05:07.35

TBE10 12892256 HpGe ***** Aquisition Date/Time: 11-JUN-2006 23:41:48.88

LIMS No., Customer Name, Client ID: WG L28845-1 EX DRES

| | | | |
|---------------|-----------------|---------------|-----------------------|
| Sample ID | : 10L28845-1 | Smple Date: | 26-MAY-2006 09:40:00. |
| Sample Type | : WG | Geometry | : 103L083004 |
| Quantity | : 3.07820E+00 L | BKGFILE | : 10BG060306MT |
| Start Channel | : 80 | Energy Tol | : 1.00000 |
| End Channel | : 4090 | Pk Srch Sens: | 5.00000 |
| MDA Constant | : 0.00 | Library Used: | LIBD |
| | | Real Time | : 0 09:23:16.42 |
| | | Live time | : 0 09:23:10.86 |

| Pk | It | Energy | Area | Bkgnd | FWHM | Channel | %Eff | Cts/Sec | %Err | Fit |
|----|----|---------|------|-------|------|---------|----------|----------|-------|----------|
| 1 | 1 | 66.53* | 222 | 992 | 1.24 | 132.18 | 7.35E-01 | 6.58E-03 | 27.5 | 1.38E+00 |
| 2 | 1 | 92.72* | 6 | 907 | 1.05 | 184.57 | 1.52E+00 | 1.71E-04 | ***** | 7.56E-01 |
| 3 | 1 | 139.83 | 174 | 1091 | 0.87 | 278.83 | 1.91E+00 | 5.15E-03 | 34.8 | 5.76E-01 |
| 4 | 1 | 185.60* | 7 | 823 | 1.42 | 370.42 | 1.77E+00 | 1.99E-04 | 899.3 | 1.65E+00 |
| 5 | 1 | 198.47* | 221 | 962 | 1.88 | 396.16 | 1.71E+00 | 6.55E-03 | 31.8 | 1.56E+00 |
| 6 | 1 | 238.72* | 50 | 760 | 1.33 | 476.70 | 1.54E+00 | 1.49E-03 | 122.2 | 1.99E+00 |
| 7 | 1 | 352.24* | 83 | 430 | 2.15 | 703.86 | 1.17E+00 | 2.45E-03 | 61.0 | 1.06E+00 |
| 8 | 1 | 501.21 | 96 | 370 | 5.07 | 1001.97 | 8.96E-01 | 2.84E-03 | 47.4 | 3.05E+00 |
| 9 | 1 | 583.56* | 13 | 229 | 2.24 | 1166.79 | 7.98E-01 | 3.81E-04 | 295.6 | 1.68E+00 |
| 10 | 1 | 595.69 | 141 | 194 | 2.45 | 1191.06 | 7.86E-01 | 4.17E-03 | 23.0 | 3.03E+00 |
| 11 | 1 | 609.33* | 65 | 252 | 1.60 | 1218.36 | 7.72E-01 | 1.93E-03 | 60.5 | 1.43E+00 |
| 12 | 1 | 911.72* | 10 | 147 | 2.00 | 1823.58 | 5.64E-01 | 2.93E-04 | 301.2 | 3.36E-01 |
| 13 | 1 | 1765.72 | 50 | 31 | 3.60 | 3533.29 | 3.39E-01 | 1.48E-03 | 26.5 | 2.75E+00 |

Flag: "*" = Peak area was modified by background subtraction

Nuclide Line Activity Report

Nuclide Type: natural

| Nuclide | Energy | Area | %Abn | %Eff | Uncorrected pCi/L | Decay Corr pCi/L | 2-Sigma %Error |
|---------|--------|-------|--------|-----------|----------------------|---------------------|-------------------|
| RA-226 | 186.21 | 7 | 3.28* | 1.772E+00 | 3.004E+00 | 3.004E+00 | 1798.58 |
| AC-228 | 835.50 | ----- | 1.75 | 6.047E-01 | ----- | Line Not Found | ----- |
| | 911.07 | 10 | 27.70* | 5.644E-01 | 1.646E+00 | 1.655E+00 | 602.45 |
| TH-228 | 238.63 | 50 | 44.60* | 1.538E+00 | 1.904E+00 | 1.936E+00 | 244.31 |
| | 240.98 | ----- | 3.95 | 1.529E+00 | ----- | Line Not Found | ----- |
| TH-232 | 583.14 | 13 | 30.25 | 7.982E-01 | 1.386E+00 | 1.386E+00 | 591.14 |
| | 911.07 | 10 | 27.70* | 5.644E-01 | 1.646E+00 | 1.646E+00 | 602.45 |
| | 969.11 | ----- | 16.60 | 5.377E-01 | ----- | Line Not Found | ----- |
| U-235 | 143.76 | ----- | 10.50* | 1.905E+00 | ----- | Line Not Found | ----- |
| | 163.35 | ----- | 4.70 | 1.860E+00 | ----- | Line Not Found | ----- |
| | 185.71 | 7 | 54.00 | 1.772E+00 | 1.825E-01 | 1.825E-01 | 1798.58 |
| | 205.31 | ----- | 4.70 | 1.684E+00 | ----- | Line Not Found | ----- |

Flag: "*" = Keyline

Summary of Nuclide Activity

Page : 2

Sample ID : 10L28845-1

Acquisition date : 11-JUN-2006 23:41:48

| | | |
|---|----|--------|
| Total number of lines in spectrum | 13 | |
| Number of unidentified lines | 9 | |
| Number of lines tentatively identified by NID | 4 | 30.77% |

Nuclide Type : natural

| Nuclide | Hlife | Decay | Uncorrected pCi/L | Decay Corr pCi/L | Decay Corr 2-Sigma Error | 2-Sigma %Error | Flags |
|------------------|-----------|-------|----------------------|---------------------|-----------------------------|-------------------|-------|
| RA-226 | 1600.00Y | 1.00 | 3.004E+00 | 3.004E+00 | 54.04E+00 | 1798.58 | |
| AC-228 | 5.75Y | 1.01 | 1.646E+00 | 1.655E+00 | 9.971E+00 | 602.45 | |
| TH-228 | 1.91Y | 1.02 | 1.904E+00 | 1.936E+00 | 4.729E+00 | 244.31 | |
| TH-232 | 1.41E+10Y | 1.00 | 1.646E+00 | 1.646E+00 | 9.915E+00 | 602.45 | |
| U-235 | 7.04E+08Y | 1.00 | 1.825E-01 | 1.825E-01 | 32.82E-01 | 1798.58 | K |
| Total Activity : | | | 8.382E+00 | 8.423E+00 | | | |

| | | |
|------------------------|-----------|-----------|
| Grand Total Activity : | 8.382E+00 | 8.423E+00 |
|------------------------|-----------|-----------|

Flags: "K" = Keyline not found

"M" = Manually accepted

"E" = Manually edited

"A" = Nuclide specific abn. limit

Unidentified Energy Lines

Sample ID : 10L28845-1

Page : 3

Acquisition date : 11-JUN-2006 23:41:48

| It | Energy | Area | Bkgnd | FWHM | Channel | Left | Pw | Cts/Sec | %Err | %Eff | Flags |
|----|---------|------|-------|------|---------|------|----|----------|------|----------|-------|
| 1 | 66.53 | 222 | 992 | 1.24 | 132.18 | 128 | 8 | 6.58E-03 | 55.1 | 7.35E-01 | |
| 1 | 92.72 | 6 | 907 | 1.05 | 184.57 | 181 | 8 | 1.71E-04 | **** | 1.52E+00 | |
| 1 | 139.83 | 174 | 1091 | 0.87 | 278.83 | 275 | 9 | 5.15E-03 | 69.7 | 1.91E+00 | |
| 1 | 198.47 | 221 | 962 | 1.88 | 396.16 | 391 | 12 | 6.55E-03 | 63.6 | 1.71E+00 | |
| 1 | 352.24 | 83 | 430 | 2.15 | 703.86 | 698 | 13 | 2.45E-03 | **** | 1.17E+00 | |
| 1 | 501.21 | 96 | 370 | 5.07 | 1001.97 | 994 | 17 | 2.84E-03 | 94.7 | 8.96E-01 | |
| 1 | 595.69 | 141 | 194 | 2.45 | 1191.06 | 1183 | 14 | 4.17E-03 | 46.1 | 7.86E-01 | |
| 1 | 609.33 | 65 | 252 | 1.60 | 1218.36 | 1213 | 13 | 1.93E-03 | **** | 7.72E-01 | |
| 1 | 1765.72 | 50 | 31 | 3.60 | 3533.29 | 3528 | 13 | 1.48E-03 | 53.0 | 3.39E-01 | |

Flags: "T" = Tentatively associated

Summary of Nuclide Activity

Total number of lines in spectrum 13
 Number of unidentified lines 9
 Number of lines tentatively identified by NID 4 30.77%

Nuclide Type : natural

| Nuclide | Hlife | Decay | Wtd Mean | Wtd Mean | Decay Corr | 2-Sigma | Flags |
|------------------|-----------|-------|-------------|------------|---------------|---------|-------|
| | | | Uncorrected | Decay Corr | | | |
| | | | pCi/L | pCi/L | 2-Sigma Error | %Error | |
| RA-226 | 1600.00Y | 1.00 | 3.004E+00 | 3.004E+00 | 54.04E+00 | 1798.58 | |
| AC-228 | 5.75Y | 1.01 | 2.599E-01 | 2.613E-01 | 129.3E-01 | 4948.84 | |
| TH-228 | 1.91Y | 1.02 | 1.904E+00 | 1.936E+00 | 4.729E+00 | 244.31 | |
| TH-232 | 1.41E+10Y | 1.00 | 1.386E+00 | 1.386E+00 | 8.193E+00 | 591.14 | |
| Total Activity : | | | 6.554E+00 | 6.587E+00 | | | |

Grand Total Activity : 6.554E+00 6.587E+00

Flags: "K" = Keyline not found

"M" = Manually accepted

"E" = Manually edited

"A" = Nuclide specific abn. limit

Interference Report

| Interfering | | Interfered | |
|-------------|--------|------------|--------|
| ----- | | ----- | |
| Nuclide | Line | Nuclide | Line |
| TH-232 | 911.07 | AC-228 | 911.07 |

Combined Activity-MDA Report

---- Identified Nuclides ----

| Nuclide | Activity (pCi/L) | Act error | MDA (pCi/L) | MDA error | Act/MDA |
|---------|---------------------|-----------|----------------|-----------|---------|
| RA-226 | 3.004E+00 | 5.404E+01 | 7.903E+01 | 0.000E+00 | 0.038 |
| AC-228 | 2.613E-01 | 1.293E+01 | 1.183E+01 | 0.000E+00 | 0.022 |
| TH-228 | 1.936E+00 | 4.729E+00 | 5.990E+00 | 0.000E+00 | 0.323 |
| TH-232 | 1.386E+00 | 8.193E+00 | 1.301E+01 | 0.000E+00 | 0.107 |

---- Non-Identified Nuclides ----

| Nuclide | Key-Line Activity (pCi/L) | K.L. Ided | Act error | MDA (pCi/L) | MDA error | Act/MDA |
|---------|---------------------------------|--------------|-----------|---------------------|-----------|---------|
| BE-7 | -1.724E+01 | | 2.064E+01 | 3.335E+01 | 0.000E+00 | -0.517 |
| NA-24 | -6.739E+01 | | 1.263E+02 | Half-Life too short | | |
| K-40 | -1.741E+00 | | 3.222E+01 | 5.386E+01 | 0.000E+00 | -0.032 |
| CR-51 | -3.330E+01 | | 2.627E+01 | 4.187E+01 | 0.000E+00 | -0.795 |
| MN-54 | -3.747E-01 | | 1.990E+00 | 3.256E+00 | 0.000E+00 | -0.115 |
| CO-57 | -1.632E+00 | | 2.051E+00 | 3.349E+00 | 0.000E+00 | -0.487 |
| CO-58 | -2.934E-01 | | 2.354E+00 | 3.871E+00 | 0.000E+00 | -0.076 |
| FE-59 | 4.466E+00 | | 4.717E+00 | 8.190E+00 | 0.000E+00 | 0.545 |
| CO-60 | 5.849E-01 | | 2.147E+00 | 3.577E+00 | 0.000E+00 | 0.164 |
| ZN-65 | 4.509E-01 | | 4.392E+00 | 7.318E+00 | 0.000E+00 | 0.062 |
| SE-75 | -3.149E+00 | | 2.998E+00 | 4.857E+00 | 0.000E+00 | -0.648 |
| SR-85 | 2.202E+01 | | 2.866E+00 | 5.451E+00 | 0.000E+00 | 4.040 |
| Y-88 | 1.075E+00 | | 2.577E+00 | 4.341E+00 | 0.000E+00 | 0.248 |
| NB-94 | -9.726E-01 | | 2.059E+00 | 3.288E+00 | 0.000E+00 | -0.296 |
| NB-95 | 1.774E-01 | | 2.302E+00 | 3.829E+00 | 0.000E+00 | 0.046 |
| ZR-95 | 1.130E+00 | | 4.136E+00 | 6.937E+00 | 0.000E+00 | 0.163 |
| MO-99 | -2.208E+02 | | 9.923E+02 | 1.634E+03 | 0.000E+00 | -0.135 |
| RU-103 | 3.292E+00 | | 3.193E+00 | 4.680E+00 | 0.000E+00 | 0.703 |
| RU-106 | 2.801E+00 | | 2.053E+01 | 3.240E+01 | 0.000E+00 | 0.086 |
| AG-110m | 2.041E-01 | | 2.155E+00 | 3.530E+00 | 0.000E+00 | 0.058 |
| SN-113 | -1.615E+00 | | 2.947E+00 | 4.730E+00 | 0.000E+00 | -0.341 |
| SB-124 | -1.642E+00 | | 5.916E+00 | 3.964E+00 | 0.000E+00 | -0.414 |
| SB-125 | 1.019E+00 | | 5.920E+00 | 9.667E+00 | 0.000E+00 | 0.105 |
| TE-129M | 1.239E+01 | | 3.137E+01 | 5.276E+01 | 0.000E+00 | 0.235 |
| I-131 | 1.785E+00 | | 8.904E+00 | 1.444E+01 | 0.000E+00 | 0.124 |
| BA-133 | 3.236E+00 | | 3.419E+00 | 4.904E+00 | 0.000E+00 | 0.660 |
| CS-134 | 4.051E+00 | | 4.059E+00 | 3.764E+00 | 0.000E+00 | 1.076 |
| CS-136 | 4.383E+00 | | 4.744E+00 | 8.138E+00 | 0.000E+00 | 0.539 |
| CS-137 | 2.491E+00 | | 2.278E+00 | 3.869E+00 | 0.000E+00 | 0.644 |
| CE-139 | -1.363E+00 | | 2.207E+00 | 3.576E+00 | 0.000E+00 | -0.381 |
| BA-140 | -1.037E+01 | | 1.768E+01 | 2.858E+01 | 0.000E+00 | -0.363 |
| LA-140 | -4.990E-01 | | 5.410E+00 | 8.888E+00 | 0.000E+00 | -0.056 |
| CE-141 | 9.074E+00 | | 5.595E+00 | 8.128E+00 | 0.000E+00 | 1.116 |
| CE-144 | 6.509E+00 | | 1.866E+01 | 2.637E+01 | 0.000E+00 | 0.247 |
| EU-152 | -1.666E+00 | | 7.751E+00 | 1.065E+01 | 0.000E+00 | -0.156 |
| EU-154 | -3.757E+00 | | 4.170E+00 | 6.794E+00 | 0.000E+00 | -0.553 |
| U-235 | 2.738E+01 | | 1.858E+01 | 2.688E+01 | 0.000E+00 | 1.018 |
| U-238 | 1.758E+02 | | 2.242E+02 | 3.800E+02 | 0.000E+00 | 0.463 |
| AM-241 | -2.037E+01 | | 1.998E+01 | 2.804E+01 | 0.000E+00 | -0.727 |

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A,10L28845-1      ,06/12/2006 09:05,05/26/2006 09:40,    3.078E+00,WG L28845-1 EX
B,10L28845-1      ,LIBD      ,06/07/2006 09:32,103L083004
C,RA-226  ,YES,    3.004E+00,    5.404E+01,    7.903E+01,,    0.038
C,AC-228  ,YES,    2.613E-01,    1.293E+01,    1.183E+01,,    0.022
C,TH-228  ,YES,    1.936E+00,    4.729E+00,    5.990E+00,,    0.323
C,TH-232  ,YES,    1.386E+00,    8.193E+00,    1.301E+01,,    0.107
C,BE-7    ,NO ,    -1.724E+01,    2.064E+01,    3.335E+01,,   -0.517
C,K-40    ,NO ,    -1.741E+00,    3.222E+01,    5.386E+01,,   -0.032
C,CR-51   ,NO ,    -3.330E+01,    2.627E+01,    4.187E+01,,   -0.795
C,MN-54   ,NO ,    -3.747E-01,    1.990E+00,    3.256E+00,,   -0.115
C,CO-57   ,NO ,    -1.632E+00,    2.051E+00,    3.349E+00,,   -0.487
C,CO-58   ,NO ,    -2.934E-01,    2.354E+00,    3.871E+00,,   -0.076
C,FE-59   ,NO ,    4.466E+00,    4.717E+00,    8.190E+00,,    0.545
C,CO-60   ,NO ,    5.849E-01,    2.147E+00,    3.577E+00,,    0.164
C,ZN-65   ,NO ,    4.509E-01,    4.392E+00,    7.318E+00,,    0.062
C,SE-75   ,NO ,    -3.149E+00,    2.998E+00,    4.857E+00,,   -0.648
C,SR-85   ,NO ,    2.202E+01,    2.866E+00,    5.451E+00,,    4.040
C,Y-88    ,NO ,    1.075E+00,    2.577E+00,    4.341E+00,,    0.248
C,NB-94   ,NO ,    -9.726E-01,    2.059E+00,    3.288E+00,,   -0.296
C,NB-95   ,NO ,    1.774E-01,    2.302E+00,    3.829E+00,,    0.046
C,ZR-95   ,NO ,    1.130E+00,    4.136E+00,    6.937E+00,,    0.163
C,MO-99   ,NO ,    -2.208E+02,    9.923E+02,    1.634E+03,,   -0.135
C,RU-103  ,NO ,    3.292E+00,    3.193E+00,    4.680E+00,,    0.703
C,RU-106  ,NO ,    2.801E+00,    2.053E+01,    3.240E+01,,    0.086
C,AG-110m ,NO ,    2.041E-01,    2.155E+00,    3.530E+00,,    0.058
C,SN-113  ,NO ,    -1.615E+00,    2.947E+00,    4.730E+00,,   -0.341
C,SB-124  ,NO ,    -1.642E+00,    5.916E+00,    3.964E+00,,   -0.414
C,SB-125  ,NO ,    1.019E+00,    5.920E+00,    9.667E+00,,    0.105
C,TE-129M ,NO ,    1.239E+01,    3.137E+01,    5.276E+01,,    0.235
C,I-131   ,NO ,    1.785E+00,    8.904E+00,    1.444E+01,,    0.124
C,BA-133  ,NO ,    3.236E+00,    3.419E+00,    4.904E+00,,    0.660
C,CS-134  ,NO ,    4.051E+00,    4.059E+00,    3.764E+00,,    1.076
C,CS-136  ,NO ,    4.383E+00,    4.744E+00,    8.138E+00,,    0.539
C,CS-137  ,NO ,    2.491E+00,    2.278E+00,    3.869E+00,,    0.644
C,CE-139  ,NO ,    -1.363E+00,    2.207E+00,    3.576E+00,,   -0.381
C,BA-140  ,NO ,    -1.037E+01,    1.768E+01,    2.858E+01,,   -0.363
C,LA-140  ,NO ,    -4.990E-01,    5.410E+00,    8.888E+00,,   -0.056
C,CE-141  ,NO ,    9.074E+00,    5.595E+00,    8.128E+00,,    1.116
C,CE-144  ,NO ,    6.509E+00,    1.866E+01,    2.637E+01,,    0.247
C,EU-152  ,NO ,    -1.666E+00,    7.751E+00,    1.065E+01,,   -0.156
C,EU-154  ,NO ,    -3.757E+00,    4.170E+00,    6.794E+00,,   -0.553
C,U-235   ,NO ,    2.738E+01,    1.858E+01,    2.688E+01,,    1.018
C,U-238   ,NO ,    1.758E+02,    2.242E+02,    3.800E+02,,    0.463
C,AM-241  ,NO ,    -2.037E+01,    1.998E+01,    2.804E+01,,   -0.727

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Sec. Review: Analyst: LIMS: ✓

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VAX/VMS Teledyne Brown Eng. Laboratory Gamma Report: 12-JUN-2006 22:54:45.23

TBE04 P-40312B HpGe ***** Aquisition Date/Time: 12-JUN-2006 14:33:14.25

LIMS No., Customer Name, Client ID: L28845-2 WG DRESDEN

| | | | |
|---------------|-----------------|---------------|-----------------------|
| Sample ID | : 04L28845-2 | Smple Date: | 26-MAY-2006 10:00:00. |
| Sample Type | : WG | Geometry | : 043L082004 |
| Quantity | : 3.08410E+00 L | BKGFILE | : 04BG060306MT |
| Start Channel | : 90 | Energy Tol | : 1.00000 |
| End Channel | : 4090 | Pk Srch Sens: | 5.00000 |
| MDA Constant | : 0.00 | Library Used: | LIBD |
| | | Real Time | : 0 08:21:23.55 |
| | | Live time | : 0 08:21:18.48 |

| Pk | It | Energy | Area | Bkgnd | FWHM | Channel | %Eff | Cts/Sec | %Err | Fit |
|----|----|----------|------|-------|------|---------|----------|----------|-------|----------|
| 1 | 6 | 63.50* | 115 | 603 | 1.21 | 127.58 | 5.61E-01 | 3.83E-03 | 40.7 | 2.33E+00 |
| 2 | 6 | 66.22* | 258 | 738 | 1.32 | 133.01 | 6.60E-01 | 8.59E-03 | 20.6 | |
| 3 | 1 | 73.72* | 557 | 1564 | 2.90 | 148.02 | 9.38E-01 | 1.85E-02 | 16.2 | 2.62E+01 |
| 4 | 1 | 92.52* | 0 | 689 | 1.05 | 185.66 | 1.53E+00 | 1.31E-06 | ***** | 1.11E+00 |
| 5 | 1 | 139.84 | 225 | 686 | 1.04 | 280.35 | 2.04E+00 | 7.47E-03 | 22.2 | 9.88E-01 |
| 6 | 1 | 174.76 | 107 | 563 | 1.40 | 350.25 | 1.97E+00 | 3.55E-03 | 39.4 | 1.26E+00 |
| 7 | 1 | 185.58* | 60 | 809 | 2.19 | 371.90 | 1.92E+00 | 1.99E-03 | 107.3 | 4.25E+00 |
| 8 | 1 | 198.55* | 219 | 670 | 1.52 | 397.85 | 1.86E+00 | 7.27E-03 | 27.1 | 3.68E+00 |
| 9 | 1 | 295.23 | 47 | 328 | 1.01 | 591.35 | 1.45E+00 | 1.55E-03 | 69.0 | 1.58E+00 |
| 10 | 1 | 351.73* | 28 | 200 | 1.15 | 704.41 | 1.28E+00 | 9.19E-04 | 114.9 | 3.05E+00 |
| 11 | 1 | 583.27* | 26 | 163 | 1.75 | 1167.74 | 8.77E-01 | 8.77E-04 | 113.7 | 7.99E-01 |
| 12 | 1 | 595.99 | 98 | 167 | 1.70 | 1193.19 | 8.63E-01 | 3.25E-03 | 28.0 | 2.83E+00 |
| 13 | 1 | 609.07* | 113 | 98 | 2.46 | 1219.37 | 8.49E-01 | 3.75E-03 | 27.6 | 1.37E+00 |
| 14 | 1 | 911.15* | 12 | 110 | 2.12 | 1823.77 | 6.21E-01 | 3.85E-04 | 228.0 | 8.71E-01 |
| 15 | 1 | 1120.14* | 56 | 75 | 3.31 | 2241.86 | 5.27E-01 | 1.88E-03 | 41.1 | 1.00E+00 |
| 16 | 1 | 1173.79* | 18 | 60 | 2.62 | 2349.18 | 5.08E-01 | 5.82E-04 | 120.7 | 8.60E-01 |

Flag: "*" = Peak area was modified by background subtraction

Nuclide Line Activity Report

Nuclide Type: activation

| Nuclide | Energy | Area | %Abn | %Eff | Uncorrected pCi/L | Decay Corr pCi/L | 2-Sigma %Error |
|---------|---------|-------|---------|-----------|----------------------|---------------------|-------------------|
| CO-60 | 1173.22 | 18 | 100.00 | 5.083E-01 | 1.004E+00 | 1.010E+00 | 241.36 |
| | 1332.49 | ----- | 100.00* | 4.604E-01 | ----- | Line Not Found | ----- |

Nuclide Type: natural

| Nuclide | Energy | Area | %Abn | %Eff | Uncorrected pCi/L | Decay Corr pCi/L | 2-Sigma %Error |
|---------|--------|-------|--------|-----------|----------------------|---------------------|-------------------|
| RA-226 | 186.21 | 60 | 3.28* | 1.923E+00 | 2.767E+01 | 2.767E+01 | 214.69 |
| AC-228 | 835.50 | ----- | 1.75 | 6.649E-01 | ----- | Line Not Found | ----- |
| | 911.07 | 12 | 27.70* | 6.211E-01 | 1.963E+00 | 1.974E+00 | 456.08 |
| TH-232 | 583.14 | 26 | 30.25 | 8.771E-01 | 2.895E+00 | 2.895E+00 | 227.33 |
| | 911.07 | 12 | 27.70* | 6.211E-01 | 1.963E+00 | 1.963E+00 | 456.08 |

| | | | | | | |
|--------|-------|-------|-----------|-----------|----------------|--------|
| 163.35 | ----- | 4.70 | 2.007E+00 | ----- | Line Not Found | ----- |
| 185.71 | 60 | 54.00 | 1.923E+00 | 1.681E+00 | 1.681E+00 | 214.69 |
| 205.31 | ----- | 4.70 | 1.833E+00 | ----- | Line Not Found | ----- |

Flag: "*" = Keyline

Summary of Nuclide Activity

Page : 2

Sample ID : 04L28845-2

Acquisition date : 12-JUN-2006 14:33:14

| | | |
|---|----|--------|
| Total number of lines in spectrum | 16 | |
| Number of unidentified lines | 12 | |
| Number of lines tentatively identified by NID | 4 | 25.00% |

Nuclide Type : activation

| Nuclide | Hlife | Decay | Uncorrected pCi/L | Decay Corr pCi/L | Decay Corr 2-Sigma Error | 2-Sigma %Error | Flags |
|------------------|-------|-------|----------------------|---------------------|-----------------------------|-------------------|-------|
| CO-60 | 5.27Y | 1.01 | 1.004E+00 | 1.010E+00 | 2.438E+00 | 241.36 | K |
| Total Activity : | | | 1.004E+00 | 1.010E+00 | | | |

Nuclide Type : natural

| Nuclide | Hlife | Decay | Uncorrected pCi/L | Decay Corr pCi/L | Decay Corr 2-Sigma Error | 2-Sigma %Error | Flags |
|------------------|-----------|-------|----------------------|---------------------|-----------------------------|-------------------|-------|
| RA-226 | 1600.00Y | 1.00 | 2.767E+01 | 2.767E+01 | 5.941E+01 | 214.69 | |
| AC-228 | 5.75Y | 1.01 | 1.963E+00 | 1.974E+00 | 9.003E+00 | 456.08 | |
| TH-232 | 1.41E+10Y | 1.00 | 1.963E+00 | 1.963E+00 | 8.952E+00 | 456.08 | |
| U-235 | 7.04E+08Y | 1.00 | 1.681E+00 | 1.681E+00 | 3.609E+00 | 214.69 | K |
| Total Activity : | | | 3.328E+01 | 3.329E+01 | | | |

Grand Total Activity : 3.428E+01 3.430E+01

Flags: "K" = Keyline not found
 "E" = Manually edited

"M" = Manually accepted
 "A" = Nuclide specific abn. limit

Unidentified Energy Lines
Sample ID : 04L28845-2

Page : 3
Acquisition date : 12-JUN-2006 14:33:14

| It | Energy | Area | Bkgnd | FWHM | Channel | Left | Pw | Cts/Sec | %Err | %Eff | Flags |
|----|---------|------|-------|------|---------|------|----|----------|------|----------|-------|
| 6 | 63.50 | 115 | 603 | 1.21 | 127.58 | 123 | 15 | 3.83E-03 | 81.4 | 5.61E-01 | |
| 6 | 66.22 | 258 | 738 | 1.32 | 133.01 | 123 | 15 | 8.59E-03 | 41.2 | 6.60E-01 | |
| 1 | 73.72 | 557 | 1564 | 2.90 | 148.02 | 140 | 15 | 1.85E-02 | 32.4 | 9.38E-01 | |
| 1 | 92.52 | 0 | 689 | 1.05 | 185.66 | 182 | 8 | 1.31E-06 | **** | 1.53E+00 | |
| 1 | 139.84 | 225 | 686 | 1.04 | 280.35 | 276 | 9 | 7.47E-03 | 44.3 | 2.04E+00 | |
| 1 | 174.76 | 107 | 563 | 1.40 | 350.25 | 347 | 8 | 3.55E-03 | 78.9 | 1.97E+00 | |
| 1 | 198.55 | 219 | 670 | 1.52 | 397.85 | 392 | 11 | 7.27E-03 | 54.2 | 1.86E+00 | |
| 1 | 295.23 | 47 | 328 | 1.01 | 591.35 | 587 | 8 | 1.55E-03 | **** | 1.45E+00 | |
| 1 | 351.73 | 28 | 200 | 1.15 | 704.41 | 701 | 7 | 9.19E-04 | **** | 1.28E+00 | |
| 1 | 595.99 | 98 | 167 | 1.70 | 1193.19 | 1189 | 11 | 3.25E-03 | 56.0 | 8.63E-01 | |
| 1 | 609.07 | 113 | 98 | 2.46 | 1219.37 | 1214 | 11 | 3.75E-03 | 55.1 | 8.49E-01 | |
| 1 | 1120.14 | 56 | 75 | 3.31 | 2241.86 | 2236 | 16 | 1.88E-03 | 82.2 | 5.27E-01 | |

Flags: "T" = Tentatively associated

Summary of Nuclide Activity

| | | |
|---|----|--------|
| Total number of lines in spectrum | 16 | |
| Number of unidentified lines | 12 | |
| Number of lines tentatively identified by NID | 4 | 25.00% |

Nuclide Type : activation

| Nuclide | Hlife | Decay | Wtd Mean Uncorrected pCi/L | Wtd Mean Decay Corr pCi/L | Decay Corr 2-Sigma Error | 2-Sigma %Error | Flags |
|------------------|-------|-------|----------------------------------|---------------------------------|-----------------------------|-------------------|-------|
| CO-60 | 5.27Y | 1.01 | 1.004E+00 | 1.010E+00 | 2.438E+00 | 241.36 | |
| Total Activity : | | | 1.004E+00 | 1.010E+00 | | | |

Nuclide Type : natural

| Nuclide | Hlife | Decay | Wtd Mean Uncorrected pCi/L | Wtd Mean Decay Corr pCi/L | Decay Corr 2-Sigma Error | 2-Sigma %Error | Flags |
|------------------|-----------|-------|----------------------------------|---------------------------------|-----------------------------|-------------------|-------|
| RA-226 | 1600.00Y | 1.00 | 2.767E+01 | 2.767E+01 | 5.941E+01 | 214.69 | |
| TH-232 | 1.41E+10Y | 1.00 | 2.568E+00 | 2.568E+00 | 5.302E+00 | 206.49 | |
| Total Activity : | | | 3.024E+01 | 3.024E+01 | | | |

Grand Total Activity : 3.125E+01 3.125E+01

Flags: "K" = Keyline not found "M" = Manually accepted
"E" = Manually edited "A" = Nuclide specific abn. limit

Interference Report

| Interfering | | Interfered | |
|-------------|--------|------------|--------|
| Nuclide | Line | Nuclide | Line |
| TH-232 | 911.07 | AC-228 | 911.07 |

Combined Activity-MDA Report

---- Identified Nuclides ----

| Nuclide | Activity (pCi/L) | Act error | MDA (pCi/L) | MDA error | Act/MDA |
|---------|---------------------|-----------|----------------|-----------|---------|
| CO-60 | 1.010E+00 | 2.438E+00 | 3.651E+00 | 0.000E+00 | 0.277 |
| RA-226 | 2.767E+01 | 5.941E+01 | 6.655E+01 | 0.000E+00 | 0.416 |
| TH-232 | 2.568E+00 | 5.302E+00 | 1.088E+01 | 0.000E+00 | 0.236 |

---- Non-Identified Nuclides ----

| Nuclide | Key-Line Activity (pCi/L) | K.L. Ided | Act error | MDA (pCi/L) | MDA error | Act/MDA |
|---------|---------------------------------|--------------|-----------|---------------------|-----------|---------|
| BE-7 | 2.024E+01 | | 1.863E+01 | 3.216E+01 | 0.000E+00 | 0.630 |
| NA-24 | -6.872E+02 | | 2.335E+02 | Half-Life too short | | |
| K-40 | -1.708E+00 | | 3.006E+01 | 4.920E+01 | 0.000E+00 | -0.035 |
| CR-51 | -2.599E+01 | | 2.289E+01 | 3.675E+01 | 0.000E+00 | -0.707 |
| MN-54 | 2.912E+00 | | 1.846E+00 | 3.257E+00 | 0.000E+00 | 0.894 |
| CO-57 | -1.320E+00 | | 1.725E+00 | 2.762E+00 | 0.000E+00 | -0.478 |
| CO-58 | -9.722E-01 | | 2.231E+00 | 3.593E+00 | 0.000E+00 | -0.271 |
| FE-59 | 4.530E+00 | | 4.660E+00 | 8.049E+00 | 0.000E+00 | 0.563 |
| ZN-65 | 5.366E+00 | | 5.013E+00 | 7.502E+00 | 0.000E+00 | 0.715 |
| SE-75 | -9.332E-01 | | 2.594E+00 | 4.169E+00 | 0.000E+00 | -0.224 |
| SR-85 | 1.972E+01 | | 2.601E+00 | 5.122E+00 | 0.000E+00 | 3.850 |
| Y-88 | -1.870E+00 | | 2.368E+00 | 3.642E+00 | 0.000E+00 | -0.513 |
| NB-94 | 1.556E-02 | | 1.781E+00 | 2.961E+00 | 0.000E+00 | 0.005 |
| NB-95 | 2.578E+00 | | 2.198E+00 | 3.813E+00 | 0.000E+00 | 0.676 |
| ZR-95 | -3.124E+00 | | 3.819E+00 | 6.071E+00 | 0.000E+00 | -0.515 |
| MO-99 | 7.958E+01 | | 1.061E+03 | 1.762E+03 | 0.000E+00 | 0.045 |
| RU-103 | 2.491E+00 | | 2.505E+00 | 4.297E+00 | 0.000E+00 | 0.580 |
| RU-106 | 3.518E+00 | | 1.768E+01 | 2.911E+01 | 0.000E+00 | 0.121 |
| AG-110m | 1.073E-01 | | 1.889E+00 | 3.079E+00 | 0.000E+00 | 0.035 |
| SN-113 | -9.175E-01 | | 2.572E+00 | 4.162E+00 | 0.000E+00 | -0.220 |
| SB-124 | 4.247E-01 | | 4.857E+00 | 3.593E+00 | 0.000E+00 | 0.118 |
| SB-125 | -7.271E-01 | | 5.248E+00 | 8.501E+00 | 0.000E+00 | -0.086 |
| TE-129M | 4.095E+01 | | 2.957E+01 | 5.029E+01 | 0.000E+00 | 0.814 |
| I-131 | -9.647E+00 | | 7.764E+00 | 1.224E+01 | 0.000E+00 | -0.788 |
| BA-133 | 4.276E+00 | | 2.778E+00 | 4.169E+00 | 0.000E+00 | 1.026 |
| CS-134 | 2.537E+00 | | 4.104E+00 | 3.273E+00 | 0.000E+00 | 0.775 |
| CS-136 | 1.791E+00 | | 4.311E+00 | 7.227E+00 | 0.000E+00 | 0.248 |
| CS-137 | 7.075E-02 | | 2.020E+00 | 3.289E+00 | 0.000E+00 | 0.022 |
| CE-139 | 4.390E-01 | | 1.762E+00 | 2.953E+00 | 0.000E+00 | 0.149 |
| BA-140 | 2.794E+00 | | 1.538E+01 | 2.557E+01 | 0.000E+00 | 0.109 |
| LA-140 | 2.372E+00 | | 5.754E+00 | 9.803E+00 | 0.000E+00 | 0.242 |
| CE-141 | 3.340E+00 | | 4.603E+00 | 6.505E+00 | 0.000E+00 | 0.513 |
| CE-144 | -9.556E-01 | | 1.561E+01 | 2.161E+01 | 0.000E+00 | -0.044 |
| EU-152 | -4.209E+00 | | 6.232E+00 | 9.052E+00 | 0.000E+00 | -0.465 |
| EU-154 | 2.810E-01 | | 3.465E+00 | 5.653E+00 | 0.000E+00 | 0.050 |
| AC-228 | 1.974E+00 | | 9.003E+00 | 1.283E+01 | 0.000E+00 | 0.154 |
| TH-228 | 2.992E+00 | | 3.871E+00 | 6.105E+00 | 0.000E+00 | 0.490 |
| U-235 | 2.338E+01 | | 1.444E+01 | 2.101E+01 | 0.000E+00 | 1.112 |
| U-238 | 1.157E+02 | | 1.984E+02 | 3.386E+02 | 0.000E+00 | 0.342 |
| AM-241 | 1.301E+01 | | 1.950E+01 | 2.758E+01 | 0.000E+00 | 0.472 |

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A,04L28845-2      ,06/12/2006 22:54,05/26/2006 10:00,    3.084E+00,L28845-2 WG DR
B,04L28845-2      ,LIBD      ,06/12/2006 10:58,043L082004
C,CO-60      ,YES,    1.010E+00,    2.438E+00,    3.651E+00,,    0.277
C,RA-226     ,YES,    2.767E+01,    5.941E+01,    6.655E+01,,    0.416
C,TH-232     ,YES,    2.568E+00,    5.302E+00,    1.088E+01,,    0.236
C,BE-7       ,NO ,    2.024E+01,    1.863E+01,    3.216E+01,,    0.630
C,K-40       ,NO ,   -1.708E+00,    3.006E+01,    4.920E+01,,   -0.035
C,CR-51      ,NO ,   -2.599E+01,    2.289E+01,    3.675E+01,,   -0.707
C,MN-54      ,NO ,    2.912E+00,    1.846E+00,    3.257E+00,,    0.894
C,CO-57      ,NO ,   -1.320E+00,    1.725E+00,    2.762E+00,,   -0.478
C,CO-58      ,NO ,   -9.722E-01,    2.231E+00,    3.593E+00,,   -0.271
C,FE-59      ,NO ,    4.530E+00,    4.660E+00,    8.049E+00,,    0.563
C,ZN-65      ,NO ,    5.366E+00,    5.013E+00,    7.502E+00,,    0.715
C,SE-75      ,NO ,   -9.332E-01,    2.594E+00,    4.169E+00,,   -0.224
C,SR-85      ,NO ,    1.972E+01,    2.601E+00,    5.122E+00,,    3.850
C,Y-88       ,NO ,   -1.870E+00,    2.368E+00,    3.642E+00,,   -0.513
C,NB-94      ,NO ,    1.556E-02,    1.781E+00,    2.961E+00,,    0.005
C,NB-95      ,NO ,    2.578E+00,    2.198E+00,    3.813E+00,,    0.676
C,ZR-95      ,NO ,   -3.124E+00,    3.819E+00,    6.071E+00,,   -0.515
C,MO-99      ,NO ,    7.958E+01,    1.061E+03,    1.762E+03,,    0.045
C,RU-103     ,NO ,    2.491E+00,    2.505E+00,    4.297E+00,,    0.580
C,RU-106     ,NO ,    3.518E+00,    1.768E+01,    2.911E+01,,    0.121
C,AG-110m    ,NO ,    1.073E-01,    1.889E+00,    3.079E+00,,    0.035
C,SN-113     ,NO ,   -9.175E-01,    2.572E+00,    4.162E+00,,   -0.220
C,SB-124     ,NO ,    4.247E-01,    4.857E+00,    3.593E+00,,    0.118
C,SB-125     ,NO ,   -7.271E-01,    5.248E+00,    8.501E+00,,   -0.086
C,TE-129M    ,NO ,    4.095E+01,    2.957E+01,    5.029E+01,,    0.814
C,I-131      ,NO ,   -9.647E+00,    7.764E+00,    1.224E+01,,   -0.788
C,BA-133     ,NO ,    4.276E+00,    2.778E+00,    4.169E+00,,    1.026
C,CS-134     ,NO ,    2.537E+00,    4.104E+00,    3.273E+00,,    0.775
C,CS-136     ,NO ,    1.791E+00,    4.311E+00,    7.227E+00,,    0.248
C,CS-137     ,NO ,    7.075E-02,    2.020E+00,    3.289E+00,,    0.022
C,CE-139     ,NO ,    4.390E-01,    1.762E+00,    2.953E+00,,    0.149
C,BA-140     ,NO ,    2.794E+00,    1.538E+01,    2.557E+01,,    0.109
C,LA-140     ,NO ,    2.372E+00,    5.754E+00,    9.803E+00,,    0.242
C,CE-141     ,NO ,    3.340E+00,    4.603E+00,    6.505E+00,,    0.513
C,CE-144     ,NO ,   -9.556E-01,    1.561E+01,    2.161E+01,,   -0.044
C,EU-152     ,NO ,   -4.209E+00,    6.232E+00,    9.052E+00,,   -0.465
C,EU-154     ,NO ,    2.810E-01,    3.465E+00,    5.653E+00,,    0.050
C,AC-228     ,NO ,    1.974E+00,    9.003E+00,    1.283E+01,,    0.154
C,TH-228     ,NO ,    2.992E+00,    3.871E+00,    6.105E+00,,    0.490
C,U-235      ,NO ,    2.338E+01,    1.444E+01,    2.101E+01,,    1.112
C,U-238      ,NO ,    1.157E+02,    1.984E+02,    3.386E+02,,    0.342
C,AM-241     ,NO ,    1.301E+01,    1.950E+01,    2.758E+01,,    0.472

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Sec. Review: Analyst: LIMS: ✓

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VAX/VMS Teledyne Brown Eng. Laboratory Gamma Report: 13-JUN-2006 09:33:35.20

TBE13 P-10727B HpGe ***** Aquisition Date/Time: 12-JUN-2006 14:33:18.19

LIMS No., Customer Name, Client ID: L28845-3 WG DRESDEN

| | | | |
|---------------|-----------------|---------------|-----------------------|
| Sample ID | : 13L28845-3 | Smple Date: | 26-MAY-2006 11:05:00. |
| Sample Type | : WG | Geometry | : 133L082404 |
| Quantity | : 3.10090E+00 L | BKGFILE | : 13BG060306MT |
| Start Channel | : 25 | Energy Tol | : 1.50000 |
| End Channel | : 4090 | Pk Srch Sens: | 5.00000 |
| MDA Constant | : 0.00 | Library Used: | LIBD |
| | | Real Time | : 0 08:27:52.74 |
| | | Live time | : 0 08:27:44.16 |

| Pk | It | Energy | Area | Bkgnd | FWHM | Channel | %Eff | Cts/Sec | %Err | Fit |
|----|----|---------|------|-------|------|---------|----------|----------|-------|----------|
| 1 | 8 | 63.32* | 123 | 803 | 1.19 | 126.74 | 7.08E-01 | 4.02E-03 | 48.7 | 2.90E+00 |
| 2 | 8 | 65.89 | 272 | 1047 | 1.56 | 131.87 | 8.10E-01 | 8.93E-03 | 22.9 | |
| 3 | 3 | 77.24* | 88 | 715 | 1.13 | 154.56 | 1.25E+00 | 2.88E-03 | 59.9 | 1.75E+00 |
| 4 | 5 | 84.77* | 13 | 854 | 1.40 | 169.61 | 1.51E+00 | 4.25E-04 | 452.0 | 1.09E+00 |
| 5 | 5 | 87.15* | 37 | 741 | 1.12 | 174.37 | 1.58E+00 | 1.22E-03 | 138.7 | |
| 6 | 1 | 139.83* | 251 | 807 | 1.14 | 279.65 | 2.27E+00 | 8.22E-03 | 23.1 | 1.61E+00 |
| 7 | 1 | 185.71* | 49 | 788 | 1.06 | 371.35 | 2.18E+00 | 1.60E-03 | 127.3 | 4.63E-01 |
| 8 | 1 | 198.25* | 252 | 649 | 1.19 | 396.43 | 2.12E+00 | 8.26E-03 | 21.1 | 1.54E+00 |
| 9 | 1 | 238.65* | 158 | 677 | 1.12 | 477.19 | 1.94E+00 | 5.18E-03 | 36.4 | 1.19E+00 |
| 10 | 1 | 294.98* | 10 | 545 | 1.20 | 589.78 | 1.70E+00 | 3.42E-04 | 480.1 | 1.01E+00 |
| 11 | 1 | 351.71* | 30 | 407 | 2.29 | 703.20 | 1.51E+00 | 9.74E-04 | 160.6 | 1.76E+00 |
| 12 | 1 | 595.86 | 123 | 280 | 1.41 | 1191.39 | 1.02E+00 | 4.03E-03 | 28.7 | 1.33E+00 |
| 13 | 1 | 609.17* | 63 | 183 | 1.75 | 1218.01 | 1.01E+00 | 2.07E-03 | 56.3 | 1.85E+00 |
| 14 | 1 | 1714.01 | 44 | 41 | 3.97 | 3428.98 | 4.63E-01 | 1.44E-03 | 35.3 | 2.31E+00 |
| 15 | 1 | 1765.87 | 76 | 64 | 2.81 | 3532.82 | 4.55E-01 | 2.49E-03 | 26.7 | 2.16E+00 |

Flag: "*" = Peak area was modified by background subtraction

Nuclide Line Activity Report

Nuclide Type: natural

| Nuclide | Energy | Area | %Abn | %Eff | Uncorrected pCi/L | Decay Corr pCi/L | 2-Sigma %Error |
|---------|--------|-------|--------|-----------|----------------------|---------------------|-------------------|
| RA-226 | 186.21 | 49 | 3.28* | 2.179E+00 | 1.950E+01 | 1.950E+01 | 254.60 |
| TH-228 | 238.63 | 158 | 44.60* | 1.938E+00 | 5.218E+00 | 5.309E+00 | 72.88 |
| | 240.98 | ----- | 3.95 | 1.927E+00 | ----- | Line Not Found | ----- |
| U-235 | 143.76 | ----- | 10.50* | 2.278E+00 | ----- | Line Not Found | ----- |
| | 163.35 | ----- | 4.70 | 2.256E+00 | ----- | Line Not Found | ----- |
| | 185.71 | 49 | 54.00 | 2.179E+00 | 1.184E+00 | 1.184E+00 | 254.60 |
| | 205.31 | ----- | 4.70 | 2.093E+00 | ----- | Line Not Found | ----- |

Flag: "*" = Keyline

Summary of Nuclide Activity

Page : 2

Sample ID : 13L28845-3

Acquisition date : 12-JUN-2006 14:33:18

| | | |
|---|----|--------|
| Total number of lines in spectrum | 15 | |
| Number of unidentified lines | 13 | |
| Number of lines tentatively identified by NID | 2 | 13.33% |

Nuclide Type : natural

| Nuclide | Hlife | Decay | Uncorrected pCi/L | Decay Corr pCi/L | Decay Corr 2-Sigma Error | 2-Sigma %Error | Flags |
|------------------|-----------|-------|----------------------|---------------------|-----------------------------|-------------------|-------|
| RA-226 | 1600.00Y | 1.00 | 1.950E+01 | 1.950E+01 | 4.964E+01 | 254.60 | |
| TH-228 | 1.91Y | 1.02 | 5.218E+00 | 5.309E+00 | 3.869E+00 | 72.88 | |
| U-235 | 7.04E+08Y | 1.00 | 1.184E+00 | 1.184E+00 | 3.015E+00 | 254.60 | K |
| Total Activity : | | | 2.590E+01 | 2.599E+01 | | | |

| | | |
|------------------------|-----------|-----------|
| Grand Total Activity : | 2.590E+01 | 2.599E+01 |
|------------------------|-----------|-----------|

Flags: "K" = Keyline not found
 "E" = Manually edited

"M" = Manually accepted
 "A" = Nuclide specific abn. limit

Unidentified Energy Lines

Page : 3

Sample ID : 13L28845-3

Acquisition date : 12-JUN-2006 14:33:18

| It | Energy | Area | Bkgnd | FWHM | Channel | Left | Pw | Cts/Sec | %Err | %Eff | Flags |
|----|---------|------|-------|------|---------|------|----|----------|------|----------|-------|
| 8 | 63.32 | 123 | 803 | 1.19 | 126.74 | 123 | 13 | 4.02E-03 | 97.5 | 7.08E-01 | |
| 8 | 65.89 | 272 | 1047 | 1.56 | 131.87 | 123 | 13 | 8.93E-03 | 45.7 | 8.10E-01 | |
| 3 | 77.24 | 88 | 715 | 1.13 | 154.56 | 140 | 19 | 2.88E-03 | **** | 1.25E+00 | |
| 5 | 84.77 | 13 | 854 | 1.40 | 169.61 | 163 | 15 | 4.25E-04 | **** | 1.51E+00 | |
| 5 | 87.15 | 37 | 741 | 1.12 | 174.37 | 163 | 15 | 1.22E-03 | **** | 1.58E+00 | |
| 1 | 139.83 | 251 | 807 | 1.14 | 279.65 | 276 | 8 | 8.22E-03 | 46.3 | 2.27E+00 | |
| 1 | 198.25 | 252 | 649 | 1.19 | 396.43 | 392 | 8 | 8.26E-03 | 42.3 | 2.12E+00 | |
| 1 | 294.98 | 10 | 545 | 1.20 | 589.78 | 585 | 10 | 3.42E-04 | **** | 1.70E+00 | |
| 1 | 351.71 | 30 | 407 | 2.29 | 703.20 | 698 | 11 | 9.74E-04 | **** | 1.51E+00 | |
| 1 | 595.86 | 123 | 280 | 1.41 | 1191.39 | 1185 | 12 | 4.03E-03 | 57.4 | 1.02E+00 | |
| 1 | 609.17 | 63 | 183 | 1.75 | 1218.01 | 1214 | 10 | 2.07E-03 | **** | 1.01E+00 | |
| 1 | 1714.01 | 44 | 41 | 3.97 | 3428.98 | 3421 | 15 | 1.44E-03 | 70.5 | 4.63E-01 | |
| 1 | 1765.87 | 76 | 64 | 2.81 | 3532.82 | 3523 | 17 | 2.49E-03 | 53.3 | 4.55E-01 | |

Flags: "T" = Tentatively associated

Summary of Nuclide Activity

| | | |
|---|----|--------|
| Total number of lines in spectrum | 15 | |
| Number of unidentified lines | 13 | |
| Number of lines tentatively identified by NID | 2 | 13.33% |

Nuclide Type : natural

| Nuclide | Hlife | Decay | Wtd Mean | Wtd Mean | Decay Corr 2-Sigma Error | 2-Sigma %Error | Flags |
|------------------|----------|-------|----------------------|---------------------|-----------------------------|-------------------|-------|
| | | | Uncorrected pCi/L | Decay Corr pCi/L | | | |
| RA-226 | 1600.00Y | 1.00 | 1.950E+01 | 1.950E+01 | 4.964E+01 | 254.60 | |
| TH-228 | 1.91Y | 1.02 | 5.218E+00 | 5.309E+00 | 3.869E+00 | 72.88 | |
| Total Activity : | | | 2.472E+01 | 2.481E+01 | | | |

Grand Total Activity : 2.472E+01 2.481E+01

Flags: "K" = Keyline not found
 "E" = Manually edited

"M" = Manually accepted
 "A" = Nuclide specific abn. limit

Interference Report

No interference correction performed

Combined Activity-MDA Report

---- Identified Nuclides ----

| Nuclide | Activity (pCi/L) | Act error | MDA (pCi/L) | MDA error | Act/MDA |
|---------|---------------------|-----------|----------------|-----------|---------|
| RA-226 | 1.950E+01 | 4.964E+01 | 6.294E+01 | 0.000E+00 | 0.310 |
| TH-228 | 5.309E+00 | 3.869E+00 | 5.056E+00 | 0.000E+00 | 1.050 |

---- Non-Identified Nuclides ----

| Nuclide | Key-Line Activity (pCi/L) | K.L. Ided | Act error | MDA (pCi/L) | MDA error | Act/MDA |
|---------|---------------------------------|--------------|-----------|---------------------|-----------|---------|
| BE-7 | 9.308E+00 | | 1.722E+01 | 2.861E+01 | 0.000E+00 | 0.325 |
| NA-24 | -2.953E+02 | | 1.983E+02 | Half-Life too short | | |
| K-40 | -4.621E+00 | | 2.934E+01 | 4.996E+01 | 0.000E+00 | -0.092 |
| CR-51 | -1.308E+01 | | 2.169E+01 | 3.471E+01 | 0.000E+00 | -0.377 |
| MN-54 | 1.768E+00 | | 1.807E+00 | 3.094E+00 | 0.000E+00 | 0.571 |
| CO-57 | 6.098E-01 | | 1.592E+00 | 2.675E+00 | 0.000E+00 | 0.228 |
| CO-58 | -1.098E+00 | | 2.017E+00 | 3.254E+00 | 0.000E+00 | -0.337 |
| FE-59 | 5.615E+00 | | 4.330E+00 | 7.556E+00 | 0.000E+00 | 0.743 |
| CO-60 | 3.015E-01 | | 1.817E+00 | 3.030E+00 | 0.000E+00 | 0.100 |
| ZN-65 | 1.949E+00 | | 3.949E+00 | 6.642E+00 | 0.000E+00 | 0.293 |
| SE-75 | -1.126E+00 | | 2.403E+00 | 3.919E+00 | 0.000E+00 | -0.287 |
| SR-85 | 1.892E+01 | | 2.518E+00 | 4.800E+00 | 0.000E+00 | 3.941 |
| Y-88 | -4.950E-01 | | 2.286E+00 | 3.686E+00 | 0.000E+00 | -0.134 |
| NB-94 | -1.822E+00 | | 1.767E+00 | 2.763E+00 | 0.000E+00 | -0.659 |
| NB-95 | 1.319E+00 | | 1.990E+00 | 3.388E+00 | 0.000E+00 | 0.389 |
| ZR-95 | -1.039E+00 | | 3.505E+00 | 5.751E+00 | 0.000E+00 | -0.181 |
| MO-99 | 6.379E+01 | | 9.982E+02 | 1.665E+03 | 0.000E+00 | 0.038 |
| RU-103 | 3.607E+00 | | 2.374E+00 | 4.048E+00 | 0.000E+00 | 0.891 |
| RU-106 | -1.289E+01 | | 1.635E+01 | 2.608E+01 | 0.000E+00 | -0.494 |
| AG-110m | 1.536E+00 | | 1.789E+00 | 3.023E+00 | 0.000E+00 | 0.508 |
| SN-113 | 1.602E-01 | | 2.392E+00 | 3.971E+00 | 0.000E+00 | 0.040 |
| SB-124 | -1.328E-01 | | 4.619E+00 | 3.401E+00 | 0.000E+00 | -0.039 |
| SB-125 | -8.124E-01 | | 4.860E+00 | 7.957E+00 | 0.000E+00 | -0.102 |
| TE-129M | -1.086E+01 | | 2.784E+01 | 4.501E+01 | 0.000E+00 | -0.241 |
| I-131 | 4.417E+00 | | 7.321E+00 | 1.240E+01 | 0.000E+00 | 0.356 |
| BA-133 | 1.395E+00 | | 2.664E+00 | 3.867E+00 | 0.000E+00 | 0.361 |
| CS-134 | 2.117E+00 | | 2.900E+00 | 3.073E+00 | 0.000E+00 | 0.689 |
| CS-136 | -6.816E-01 | | 3.937E+00 | 6.443E+00 | 0.000E+00 | -0.106 |
| CS-137 | -1.247E+00 | | 2.126E+00 | 3.119E+00 | 0.000E+00 | -0.400 |
| CE-139 | -7.664E-01 | | 1.707E+00 | 2.769E+00 | 0.000E+00 | -0.277 |
| BA-140 | 1.016E+01 | | 1.494E+01 | 2.543E+01 | 0.000E+00 | 0.400 |
| LA-140 | -1.269E-01 | | 5.177E+00 | 8.568E+00 | 0.000E+00 | -0.015 |
| CE-141 | 5.261E+00 | | 4.278E+00 | 6.288E+00 | 0.000E+00 | 0.837 |
| CE-144 | -8.161E+00 | | 1.395E+01 | 2.043E+01 | 0.000E+00 | -0.399 |
| EU-152 | -1.105E+01 | | 6.487E+00 | 8.273E+00 | 0.000E+00 | -1.336 |
| EU-154 | 1.962E+00 | | 3.227E+00 | 5.442E+00 | 0.000E+00 | 0.360 |
| AC-228 | -1.004E+00 | | 8.213E+00 | 1.158E+01 | 0.000E+00 | -0.087 |
| TH-232 | -9.986E-01 | | 8.167E+00 | 1.151E+01 | 0.000E+00 | -0.087 |
| U-235 | -4.268E+00 | | 1.492E+01 | 1.974E+01 | 0.000E+00 | -0.216 |
| U-238 | 1.963E+02 | | 2.215E+02 | 3.428E+02 | 0.000E+00 | 0.573 |
| AM-241 | 4.439E+00 | | 1.479E+01 | 2.144E+01 | 0.000E+00 | 0.207 |

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A,13L28845-3      ,06/13/2006 09:33,05/26/2006 11:05,      3.101E+00,L28845-3 WG DR
B,13L28845-3      ,LIBD      ,08/05/2005 08:16,133L082404
C,RA-226      ,YES,      1.950E+01,      4.964E+01,      6.294E+01,,      0.310
C,TH-228      ,YES,      5.309E+00,      3.869E+00,      5.056E+00,,      1.050
C,BE-7        ,NO ,      9.308E+00,      1.722E+01,      2.861E+01,,      0.325
C,K-40        ,NO ,      -4.621E+00,      2.934E+01,      4.996E+01,,      -0.092
C,CR-51       ,NO ,      -1.308E+01,      2.169E+01,      3.471E+01,,      -0.377
C,MN-54       ,NO ,      1.768E+00,      1.807E+00,      3.094E+00,,      0.571
C,CO-57       ,NO ,      6.098E-01,      1.592E+00,      2.675E+00,,      0.228
C,CO-58       ,NO ,      -1.098E+00,      2.017E+00,      3.254E+00,,      -0.337
C,FE-59       ,NO ,      5.615E+00,      4.330E+00,      7.556E+00,,      0.743
C,CO-60       ,NO ,      3.015E-01,      1.817E+00,      3.030E+00,,      0.100
C,ZN-65       ,NO ,      1.949E+00,      3.949E+00,      6.642E+00,,      0.293
C,SE-75       ,NO ,      -1.126E+00,      2.403E+00,      3.919E+00,,      -0.287
C,SR-85       ,NO ,      1.892E+01,      2.518E+00,      4.800E+00,,      3.941
C,Y-88        ,NO ,      -4.950E-01,      2.286E+00,      3.686E+00,,      -0.134
C,NB-94       ,NO ,      -1.822E+00,      1.767E+00,      2.763E+00,,      -0.659
C,NB-95       ,NO ,      1.319E+00,      1.990E+00,      3.388E+00,,      0.389
C,ZR-95       ,NO ,      -1.039E+00,      3.505E+00,      5.751E+00,,      -0.181
C,MO-99       ,NO ,      6.379E+01,      9.982E+02,      1.665E+03,,      0.038
C,RU-103      ,NO ,      3.607E+00,      2.374E+00,      4.048E+00,,      0.891
C,RU-106      ,NO ,      -1.289E+01,      1.635E+01,      2.608E+01,,      -0.494
C,AG-110m     ,NO ,      1.536E+00,      1.789E+00,      3.023E+00,,      0.508
C,SN-113      ,NO ,      1.602E-01,      2.392E+00,      3.971E+00,,      0.040
C,SB-124      ,NO ,      -1.328E-01,      4.619E+00,      3.401E+00,,      -0.039
C,SB-125      ,NO ,      -8.124E-01,      4.860E+00,      7.957E+00,,      -0.102
C,TE-129M     ,NO ,      -1.086E+01,      2.784E+01,      4.501E+01,,      -0.241
C,I-131       ,NO ,      4.417E+00,      7.321E+00,      1.240E+01,,      0.356
C,BA-133      ,NO ,      1.395E+00,      2.664E+00,      3.867E+00,,      0.361
C,CS-134      ,NO ,      2.117E+00,      2.900E+00,      3.073E+00,,      0.689
C,CS-136      ,NO ,      -6.816E-01,      3.937E+00,      6.443E+00,,      -0.106
C,CS-137      ,NO ,      -1.247E+00,      2.126E+00,      3.119E+00,,      -0.400
C,CE-139      ,NO ,      -7.664E-01,      1.707E+00,      2.769E+00,,      -0.277
C,BA-140      ,NO ,      1.016E+01,      1.494E+01,      2.543E+01,,      0.400
C,LA-140      ,NO ,      -1.269E-01,      5.177E+00,      8.568E+00,,      -0.015
C,CE-141      ,NO ,      5.261E+00,      4.278E+00,      6.288E+00,,      0.837
C,CE-144      ,NO ,      -8.161E+00,      1.395E+01,      2.043E+01,,      -0.399
C,EU-152      ,NO ,      -1.105E+01,      6.487E+00,      8.273E+00,,      -1.336
C,EU-154      ,NO ,      1.962E+00,      3.227E+00,      5.442E+00,,      0.360
C,AC-228      ,NO ,      -1.004E+00,      8.213E+00,      1.158E+01,,      -0.087
C,TH-232      ,NO ,      -9.986E-01,      8.167E+00,      1.151E+01,,      -0.087
C,U-235       ,NO ,      -4.268E+00,      1.492E+01,      1.974E+01,,      -0.216
C,U-238       ,NO ,      1.963E+02,      2.215E+02,      3.428E+02,,      0.573
C,AM-241      ,NO ,      4.439E+00,      1.479E+01,      2.144E+01,,      0.207

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Sec. Review: Analyst: LIMS: ✓

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VAX/VMS Teledyne Brown Eng. Laboratory Gamma Report: 12-JUN-2006 18:13:21.85
 TBE07 P-10768B HpGe ***** Aquisition Date/Time: 12-JUN-2006 14:52:11.70

LIMS No., Customer Name, Client ID: L28845-4 WG DRESDEN

| | | | |
|---------------|-----------------|---------------|-----------------------|
| Sample ID | : 07L28845-4 | Smple Date: | 26-MAY-2006 14:00:00. |
| Sample Type | : WG | Geometry | : 073L082504 |
| Quantity | : 3.06560E+00 L | BKGFILE | : 07BG060306MT |
| Start Channel | : 40 | Energy Tol | : 1.00000 |
| End Channel | : 4090 | Pk Srch Sens: | 5.00000 |
| MDA Constant | : 0.00 | Library Used: | LIBD |
| | | Real Time | : 0 03:21:04.54 |
| | | Live time | : 0 03:21:02.21 |

| Pk | It | Energy | Area | Bkgnd | FWHM | Channel | %Eff | Cts/Sec | %Err | Fit |
|----|----|---------|------|-------|------|---------|----------|----------|------|----------|
| 1 | 1 | 139.83* | 85 | 369 | 2.38 | 280.34 | 2.36E+00 | 7.03E-03 | 45.7 | 3.72E+00 |
| 2 | 1 | 198.50* | 96 | 269 | 1.74 | 397.76 | 2.24E+00 | 7.95E-03 | 36.1 | 1.48E+00 |

Flag: "*" = Peak area was modified by background subtraction

Nuclide Line Activity Report

Flag: "*" = Keyline

Summary of Nuclide Activity

Page : 2

Sample ID : 07L28845-4

Acquisition date : 12-JUN-2006 14:52:11

Total number of lines in spectrum

2

Number of unidentified lines

2

Number of lines tentatively identified by NID

0

0.00%

**** There are no nuclides meeting summary criteria ****

Flags: "K" = Keyline not found

"M" = Manually accepted

"E" = Manually edited

"A" = Nuclide specific abn. limit

Unidentified Energy Lines

Page : 3

Sample ID : 07L28845-4

Acquisition date : 12-JUN-2006 14:52:11

| It | Energy | Area | Bkgnd | FWHM | Channel | Left | Pw | Cts/Sec | %Err | %Eff | Flags |
|----|--------|------|-------|------|---------|------|----|----------|------|----------|-------|
| 1 | 139.83 | 85 | 369 | 2.38 | 280.34 | 276 | 10 | 7.03E-03 | 91.4 | 2.36E+00 | |
| 1 | 198.50 | 96 | 269 | 1.74 | 397.76 | 392 | 10 | 7.95E-03 | 72.2 | 2.24E+00 | |

Flags: "T" = Tentatively associated

Summary of Nuclide Activity

| | |
|---|---------|
| Total number of lines in spectrum | 2 |
| Number of unidentified lines | 2 |
| Number of lines tentatively identified by NID | 0 0.00% |

**** There are no nuclides meeting summary criteria ****

Flags: "K" = Keyline not found

"M" = Manually accepted

"E" = Manually edited

"A" = Nuclide specific abn. limit

Interference Report

No interference correction performed

Combined Activity-MDA Report

---- Non-Identified Nuclides ----

| Nuclide | Key-Line Activity (pCi/L) | K.L. Ided | Act error | MDA (pCi/L) | MDA error | Act/MDA |
|---------|---------------------------------|--------------|-----------|---------------------|-----------|---------|
| BE-7 | 2.111E-01 | | 2.682E+01 | 4.369E+01 | 0.000E+00 | 0.005 |
| NA-24 | -6.512E+02 | | 2.449E+02 | Half-Life too short | | |
| K-40 | 1.529E+01 | | 3.601E+01 | 6.590E+01 | 0.000E+00 | 0.232 |
| CR-51 | -3.579E+01 | | 3.324E+01 | 5.303E+01 | 0.000E+00 | -0.675 |
| MN-54 | 1.075E+00 | | 2.721E+00 | 4.607E+00 | 0.000E+00 | 0.233 |
| CO-57 | -1.974E-01 | | 2.616E+00 | 4.266E+00 | 0.000E+00 | -0.046 |
| CO-58 | -6.543E-01 | | 3.155E+00 | 5.158E+00 | 0.000E+00 | -0.127 |
| FE-59 | 9.526E-01 | | 6.250E+00 | 1.047E+01 | 0.000E+00 | 0.091 |
| CO-60 | -1.779E-01 | | 2.650E+00 | 4.301E+00 | 0.000E+00 | -0.041 |
| ZN-65 | -1.002E+00 | | 6.198E+00 | 1.014E+01 | 0.000E+00 | -0.099 |
| SE-75 | -2.087E+00 | | 3.822E+00 | 6.111E+00 | 0.000E+00 | -0.341 |
| SR-85 | 2.630E+01 | | 3.941E+00 | 7.936E+00 | 0.000E+00 | 3.313 |
| Y-88 | -2.522E+00 | | 3.062E+00 | 4.613E+00 | 0.000E+00 | -0.547 |
| NB-94 | -2.975E+00 | | 2.613E+00 | 3.968E+00 | 0.000E+00 | -0.750 |
| NB-95 | -4.954E-02 | | 3.061E+00 | 5.082E+00 | 0.000E+00 | -0.010 |
| ZR-95 | -1.766E+00 | | 5.662E+00 | 9.010E+00 | 0.000E+00 | -0.196 |
| MO-99 | 8.468E+02 | | 1.462E+03 | 2.465E+03 | 0.000E+00 | 0.344 |
| RU-103 | 3.102E+00 | | 3.648E+00 | 6.176E+00 | 0.000E+00 | 0.502 |
| RU-106 | 4.230E+01 | | 2.551E+01 | 4.571E+01 | 0.000E+00 | 0.925 |
| AG-110m | -1.235E+00 | | 2.750E+00 | 4.388E+00 | 0.000E+00 | -0.282 |
| SN-113 | 1.410E+00 | | 3.684E+00 | 6.172E+00 | 0.000E+00 | 0.228 |
| SB-124 | -9.174E+00 | | 3.667E+00 | 5.321E+00 | 0.000E+00 | -1.724 |
| SB-125 | -7.141E-01 | | 7.615E+00 | 1.242E+01 | 0.000E+00 | -0.057 |
| TE-129M | 5.043E+00 | | 4.159E+01 | 6.828E+01 | 0.000E+00 | 0.074 |
| I-131 | -8.807E+00 | | 1.102E+01 | 1.756E+01 | 0.000E+00 | -0.501 |
| BA-133 | 2.166E+00 | | 3.705E+00 | 6.277E+00 | 0.000E+00 | 0.345 |

| | | | | | |
|--------|------------|-----------|-----------|-----------|--------|
| CS-134 | 1.530E+00 | 3.115E+00 | 5.243E+00 | 0.000E+00 | 0.292 |
| CS-136 | 2.377E+00 | 6.137E+00 | 1.041E+01 | 0.000E+00 | 0.228 |
| CS-137 | 1.918E+00 | 2.892E+00 | 4.920E+00 | 0.000E+00 | 0.390 |
| CE-139 | -1.353E+00 | 2.659E+00 | 4.369E+00 | 0.000E+00 | -0.310 |
| BA-140 | 1.752E+01 | 2.254E+01 | 3.892E+01 | 0.000E+00 | 0.450 |
| LA-140 | 1.296E+00 | 7.334E+00 | 1.226E+01 | 0.000E+00 | 0.106 |
| CE-141 | 5.778E+00 | 6.961E+00 | 9.979E+00 | 0.000E+00 | 0.579 |
| CE-144 | -1.893E+01 | 2.405E+01 | 3.210E+01 | 0.000E+00 | -0.590 |
| EU-152 | -1.316E+01 | 8.567E+00 | 1.335E+01 | 0.000E+00 | -0.986 |
| EU-154 | 4.705E-01 | 5.270E+00 | 8.634E+00 | 0.000E+00 | 0.054 |
| RA-226 | 1.847E+00 | 6.641E+01 | 1.105E+02 | 0.000E+00 | 0.017 |
| AC-228 | -2.485E+00 | 1.074E+01 | 1.720E+01 | 0.000E+00 | -0.144 |
| TH-228 | 2.483E+00 | 5.193E+00 | 8.695E+00 | 0.000E+00 | 0.286 |
| TH-232 | -2.471E+00 | 1.068E+01 | 1.710E+01 | 0.000E+00 | -0.144 |
| U-235 | 3.462E+01 | 2.253E+01 | 3.330E+01 | 0.000E+00 | 1.039 |
| U-238 | 2.175E+01 | 2.815E+02 | 4.620E+02 | 0.000E+00 | 0.047 |
| AM-241 | -4.773E+01 | 2.514E+01 | 3.795E+01 | 0.000E+00 | -1.258 |

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A,07L28845-4      ,06/12/2006 18:13,05/26/2006 14:00,    3.066E+00,L28845-4 WG DR
B,07L28845-4      ,LIBD                                ,06/07/2006 09:32,073L082504
C,BE-7            ,NO ,    2.111E-01,    2.682E+01,    4.369E+01,,    0.005
C,K-40            ,NO ,    1.529E+01,    3.601E+01,    6.590E+01,,    0.232
C,CR-51          ,NO ,   -3.579E+01,    3.324E+01,    5.303E+01,,   -0.675
C,MN-54          ,NO ,    1.075E+00,    2.721E+00,    4.607E+00,,    0.233
C,CO-57          ,NO ,   -1.974E-01,    2.616E+00,    4.266E+00,,   -0.046
C,CO-58          ,NO ,   -6.543E-01,    3.155E+00,    5.158E+00,,   -0.127
C,FE-59          ,NO ,    9.526E-01,    6.250E+00,    1.047E+01,,    0.091
C,CO-60          ,NO ,   -1.779E-01,    2.650E+00,    4.301E+00,,   -0.041
C,ZN-65          ,NO ,   -1.002E+00,    6.198E+00,    1.014E+01,,   -0.099
C,SE-75          ,NO ,   -2.087E+00,    3.822E+00,    6.111E+00,,   -0.341
C,SR-85          ,NO ,    2.630E+01,    3.941E+00,    7.936E+00,,    3.313
C,Y-88           ,NO ,   -2.522E+00,    3.062E+00,    4.613E+00,,   -0.547
C,NB-94          ,NO ,   -2.975E+00,    2.613E+00,    3.968E+00,,   -0.750
C,NB-95          ,NO ,   -4.954E-02,    3.061E+00,    5.082E+00,,   -0.010
C,ZR-95          ,NO ,   -1.766E+00,    5.662E+00,    9.010E+00,,   -0.196
C,MO-99          ,NO ,    8.468E+02,    1.462E+03,    2.465E+03,,    0.344
C,RU-103         ,NO ,    3.102E+00,    3.648E+00,    6.176E+00,,    0.502
C,RU-106         ,NO ,    4.230E+01,    2.551E+01,    4.571E+01,,    0.925
C,AG-110m        ,NO ,   -1.235E+00,    2.750E+00,    4.388E+00,,   -0.282
C,SN-113         ,NO ,    1.410E+00,    3.684E+00,    6.172E+00,,    0.228
C,SB-124         ,NO ,   -9.174E+00,    3.667E+00,    5.321E+00,,   -1.724
C,SB-125         ,NO ,   -7.141E-01,    7.615E+00,    1.242E+01,,   -0.057
C,TE-129M        ,NO ,    5.043E+00,    4.159E+01,    6.828E+01,,    0.074
C,I-131          ,NO ,   -8.807E+00,    1.102E+01,    1.756E+01,,   -0.501
C,BA-133         ,NO ,    2.166E+00,    3.705E+00,    6.277E+00,,    0.345
C,CS-134         ,NO ,    1.530E+00,    3.115E+00,    5.243E+00,,    0.292
C,CS-136         ,NO ,    2.377E+00,    6.137E+00,    1.041E+01,,    0.228
C,CS-137         ,NO ,    1.918E+00,    2.892E+00,    4.920E+00,,    0.390
C,CE-139         ,NO ,   -1.353E+00,    2.659E+00,    4.369E+00,,   -0.310
C,BA-140         ,NO ,    1.752E+01,    2.254E+01,    3.892E+01,,    0.450
C,LA-140         ,NO ,    1.296E+00,    7.334E+00,    1.226E+01,,    0.106
C,CE-141         ,NO ,    5.778E+00,    6.961E+00,    9.979E+00,,    0.579
C,CE-144         ,NO ,   -1.893E+01,    2.405E+01,    3.210E+01,,   -0.590
C,EU-152         ,NO ,   -1.316E+01,    8.567E+00,    1.335E+01,,   -0.986
C,EU-154         ,NO ,    4.705E-01,    5.270E+00,    8.634E+00,,    0.054
C,RA-226         ,NO ,    1.847E+00,    6.641E+01,    1.105E+02,,    0.017
C,AC-228         ,NO ,   -2.485E+00,    1.074E+01,    1.720E+01,,   -0.144
C,TH-228         ,NO ,    2.483E+00,    5.193E+00,    8.695E+00,,    0.286
C,TH-232         ,NO ,   -2.471E+00,    1.068E+01,    1.710E+01,,   -0.144
C,U-235          ,NO ,    3.462E+01,    2.253E+01,    3.330E+01,,    1.039
C,U-238          ,NO ,    2.175E+01,    2.815E+02,    4.620E+02,,    0.047
C,AM-241         ,NO ,   -4.773E+01,    2.514E+01,    3.795E+01,,   -1.258

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Sec. Review: Analyst: LIMS: ✓

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VAX/VMS Teledyne Brown Eng. Laboratory Gamma Report: 12-JUN-2006 23:01:34.11

TBE23 03017322 HpGe ***** Aquisition Date/Time: 12-JUN-2006 15:17:03.79

LIMS No., Customer Name, Client ID: WG L28845-5 DRESDEN

| | | | |
|---------------|-----------------|---------------|-----------------------|
| Sample ID | : 23L28845-5 | Smple Date: | 26-MAY-2006 14:10:00. |
| Sample Type | : WG | Geometry | : 233L082404 |
| Quantity | : 3.05620E+00 L | BKGFILE | : 23BG060306MT |
| Start Channel | : 50 | Energy Tol | : 1.50000 |
| End Channel | : 4090 | Pk Srch Sens: | 5.00000 |
| MDA Constant | : 0.00 | Library Used: | LIBD |
| | | Real Time | : 0 07:44:20.35 |
| | | Live time | : 0 07:44:00.98 |

| Pk | It | Energy | Area | Bkgnd | FWHM | Channel | %Eff | Cts/Sec | %Err | Fit |
|----|----|----------|------|-------|------|---------|----------|----------|-------|----------|
| 1 | 8 | 33.79* | 131 | 30 | 1.17 | 67.90 | 8.25E-02 | 4.71E-03 | 25.1 | 4.25E+00 |
| 2 | 8 | 35.94* | 155 | 216 | 2.59 | 72.19 | 1.18E-01 | 5.56E-03 | 42.4 | |
| 3 | 8 | 38.96* | 181 | 496 | 2.59 | 78.25 | 1.81E-01 | 6.51E-03 | 37.3 | |
| 4 | 8 | 41.68* | 12 | 405 | 1.45 | 83.68 | 2.50E-01 | 4.22E-04 | 406.8 | |
| 5 | 8 | 46.55* | 13 | 629 | 1.55 | 93.40 | 4.00E-01 | 4.66E-04 | 357.5 | |
| 6 | 4 | 63.24* | 52 | 946 | 1.34 | 126.76 | 1.04E+00 | 1.86E-03 | 118.1 | 2.76E+00 |
| 7 | 4 | 66.08 | 255 | 787 | 1.49 | 132.44 | 1.15E+00 | 9.15E-03 | 19.5 | |
| 8 | 0 | 76.95 | 135 | 922 | 0.94 | 154.16 | 1.53E+00 | 4.84E-03 | 38.3 | |
| 9 | 0 | 92.35* | 125 | 1472 | 1.13 | 184.93 | 1.93E+00 | 4.48E-03 | 67.1 | |
| 10 | 0 | 139.50* | 138 | 1149 | 0.94 | 279.18 | 2.32E+00 | 4.97E-03 | 48.7 | |
| 11 | 0 | 185.18* | 34 | 987 | 1.51 | 370.46 | 2.18E+00 | 1.22E-03 | 202.7 | |
| 12 | 0 | 198.37* | 161 | 928 | 1.19 | 396.82 | 2.11E+00 | 5.79E-03 | 39.1 | |
| 13 | 0 | 238.02* | 122 | 788 | 1.30 | 476.08 | 1.90E+00 | 4.38E-03 | 49.8 | |
| 14 | 0 | 295.33* | 57 | 551 | 0.78 | 590.64 | 1.64E+00 | 2.03E-03 | 87.4 | |
| 15 | 0 | 351.61* | 168 | 521 | 1.38 | 703.13 | 1.44E+00 | 6.02E-03 | 32.8 | |
| 16 | 0 | 582.18* | 51 | 328 | 1.60 | 1164.06 | 9.72E-01 | 1.84E-03 | 88.1 | |
| 17 | 0 | 595.70 | 173 | 233 | 1.52 | 1191.09 | 9.56E-01 | 6.22E-03 | 20.7 | |
| 18 | 0 | 608.79* | 286 | 288 | 1.65 | 1217.25 | 9.41E-01 | 1.03E-02 | 16.8 | |
| 19 | 0 | 851.67 | 47 | 66 | 1.42 | 1702.90 | 7.42E-01 | 1.71E-03 | 33.9 | |
| 20 | 0 | 911.10* | 67 | 90 | 0.99 | 1821.73 | 7.08E-01 | 2.42E-03 | 38.1 | |
| 21 | 0 | 1120.57* | 59 | 88 | 1.72 | 2240.66 | 6.15E-01 | 2.11E-03 | 40.8 | |
| 22 | 0 | 1764.76* | 32 | 59 | 2.44 | 3529.42 | 4.38E-01 | 1.16E-03 | 70.9 | |

Flag: "*" = Peak area was modified by background subtraction

Nuclide Line Activity Report

Nuclide Type: natural

| Nuclide | Energy | Area | %Abn | %Eff | Uncorrected pCi/L | Decay Corr pCi/L | 2-Sigma %Error |
|---------|--------|-------|--------|-----------|----------------------|---------------------|-------------------|
| RA-226 | 186.21 | 34 | 3.28* | 2.177E+00 | 1.515E+01 | 1.515E+01 | 405.46 |
| AC-228 | 835.50 | ----- | 1.75 | 7.515E-01 | ----- | Line Not Found | ----- |
| | 911.07 | 67 | 27.70* | 7.083E-01 | 1.090E+01 | 1.097E+01 | 76.22 |
| TH-228 | 238.63 | 122 | 44.60* | 1.903E+00 | 4.565E+00 | 4.644E+00 | 99.68 |
| | 240.98 | ----- | 3.95 | 1.888E+00 | ----- | Line Not Found | ----- |
| TH-232 | 583.14 | 51 | 30.25 | 9.725E-01 | 5.539E+00 | 5.539E+00 | 176.12 |
| | 911.07 | 67 | 27.70* | 7.083E-01 | 1.090E+01 | 1.090E+01 | 76.22 |
| | 969.11 | ----- | 16.60 | 6.793E-01 | ----- | Line Not Found | ----- |

Flag: "*" = Keyline

Summary of Nuclide Activity

Page : 2

Sample ID : 23L28845-5

Acquisition date : 12-JUN-2006 15:17:03

| | | |
|---|----|--------|
| Total number of lines in spectrum | 22 | |
| Number of unidentified lines | 18 | |
| Number of lines tentatively identified by NID | 4 | 18.18% |

Nuclide Type : natural

| Nuclide | Hlife | Decay | Uncorrected pCi/L | Decay Corr pCi/L | Decay Corr 2-Sigma Error | 2-Sigma %Error | Flags |
|------------------|-----------|-------|----------------------|---------------------|-----------------------------|-------------------|-------|
| RA-226 | 1600.00Y | 1.00 | 1.515E+01 | 1.515E+01 | 6.143E+01 | 405.46 | |
| AC-228 | 5.75Y | 1.01 | 1.090E+01 | 1.097E+01 | 0.836E+01 | 76.22 | |
| TH-228 | 1.91Y | 1.02 | 4.565E+00 | 4.644E+00 | 4.629E+00 | 99.68 | |
| TH-232 | 1.41E+10Y | 1.00 | 1.090E+01 | 1.090E+01 | 0.831E+01 | 76.22 | |
| | | | ----- | ----- | | | |
| Total Activity : | | | 4.152E+01 | 4.166E+01 | | | |

| | | |
|------------------------|-----------|-----------|
| Grand Total Activity : | 4.152E+01 | 4.166E+01 |
|------------------------|-----------|-----------|

Flags: "K" = Keyline not found
 "E" = Manually edited

"M" = Manually accepted
 "A" = Nuclide specific abn. limit

Unidentified Energy Lines
Sample ID : 23L28845-5

Page : 3
Acquisition date : 12-JUN-2006 15:17:03

| It | Energy | Area | Bkgnd | FWHM | Channel | Left | Pw | Cts/Sec | %Err | %Eff | Flags |
|----|---------|------|-------|------|---------|------|----|----------|------|----------|-------|
| 8 | 33.79 | 131 | 30 | 1.17 | 67.90 | 64 | 34 | 4.71E-03 | 50.2 | 8.25E-02 | |
| 8 | 35.94 | 155 | 216 | 2.59 | 72.19 | 64 | 34 | 5.56E-03 | 84.9 | 1.18E-01 | |
| 8 | 38.96 | 181 | 496 | 2.59 | 78.25 | 64 | 34 | 6.51E-03 | 74.6 | 1.81E-01 | |
| 8 | 41.68 | 12 | 405 | 1.45 | 83.68 | 64 | 34 | 4.22E-04 | **** | 2.50E-01 | |
| 8 | 46.55 | 13 | 629 | 1.55 | 93.40 | 64 | 34 | 4.66E-04 | **** | 4.00E-01 | |
| 4 | 63.24 | 52 | 946 | 1.34 | 126.76 | 123 | 13 | 1.86E-03 | **** | 1.04E+00 | |
| 4 | 66.08 | 255 | 787 | 1.49 | 132.44 | 123 | 13 | 9.15E-03 | 39.0 | 1.15E+00 | |
| 0 | 76.95 | 135 | 922 | 0.94 | 154.16 | 152 | 7 | 4.84E-03 | 76.7 | 1.53E+00 | |
| 0 | 92.35 | 125 | 1472 | 1.13 | 184.93 | 179 | 11 | 4.48E-03 | **** | 1.93E+00 | |
| 0 | 139.50 | 138 | 1149 | 0.94 | 279.18 | 275 | 9 | 4.97E-03 | 97.5 | 2.32E+00 | |
| 0 | 198.37 | 161 | 928 | 1.19 | 396.82 | 391 | 10 | 5.79E-03 | 78.1 | 2.11E+00 | |
| 0 | 295.33 | 57 | 551 | 0.78 | 590.64 | 586 | 10 | 2.03E-03 | **** | 1.64E+00 | |
| 0 | 351.61 | 168 | 521 | 1.38 | 703.13 | 696 | 14 | 6.02E-03 | 65.6 | 1.44E+00 | |
| 0 | 595.70 | 173 | 233 | 1.52 | 1191.09 | 1184 | 15 | 6.22E-03 | 41.3 | 9.56E-01 | |
| 0 | 608.79 | 286 | 288 | 1.65 | 1217.25 | 1208 | 18 | 1.03E-02 | 33.5 | 9.41E-01 | |
| 0 | 851.67 | 47 | 66 | 1.42 | 1702.90 | 1699 | 9 | 1.71E-03 | 67.9 | 7.42E-01 | |
| 0 | 1120.57 | 59 | 88 | 1.72 | 2240.66 | 2236 | 12 | 2.11E-03 | 81.7 | 6.15E-01 | |
| 0 | 1764.76 | 32 | 59 | 2.44 | 3529.42 | 3522 | 19 | 1.16E-03 | **** | 4.38E-01 | |

Flags: "T" = Tentatively associated

Summary of Nuclide Activity

| | |
|---|-------------------------------|
| Total number of lines in spectrum | 22 |
| Number of unidentified lines | 18 |
| Number of lines tentatively identified by NID | 4 18.18% |

Nuclide Type : natural

| Nuclide | Hlife | Decay | Wtd Mean | Wtd Mean | Decay Corr | 2-Sigma | Error | %Error | Flags |
|------------------|-----------|-------|-------------|------------|------------|---------|-------|--------|-------|
| | | | Uncorrected | Decay Corr | | | | | |
| | | | pCi/L | pCi/L | | | | | |
| RA-226 | 1600.00Y | 1.00 | 1.515E+01 | 1.515E+01 | 6.143E+01 | 405.46 | | | |
| AC-228 | 5.75Y | 1.01 | 5.365E+00 | 5.395E+00 | 12.89E+00 | 238.87 | | | |
| TH-228 | 1.91Y | 1.02 | 4.565E+00 | 4.644E+00 | 4.629E+00 | 99.68 | | | |
| TH-232 | 1.41E+10Y | 1.00 | 5.539E+00 | 5.539E+00 | 9.755E+00 | 176.12 | | | |
| Total Activity : | | | 3.062E+01 | 3.073E+01 | | | | | |

Grand Total Activity : 3.062E+01 3.073E+01

Flags: "K" = Keyline not found "M" = Manually accepted
 "E" = Manually edited "A" = Nuclide specific abn. limit

Interference Report

| Interfering | | Interfered | |
|-------------|--------|------------|--------|
| Nuclide | Line | Nuclide | Line |
| TH-232 | 911.07 | AC-228 | 911.07 |

Combined Activity-MDA Report

---- Identified Nuclides ----

| Nuclide | Activity (pCi/L) | Act error | MDA (pCi/L) | MDA error | Act/MDA |
|---------|---------------------|-----------|----------------|-----------|---------|
| RA-226 | 1.515E+01 | 6.143E+01 | 8.567E+01 | 0.000E+00 | 0.177 |
| AC-228 | 5.395E+00 | 1.289E+01 | 1.216E+01 | 0.000E+00 | 0.444 |
| TH-228 | 4.644E+00 | 4.629E+00 | 6.084E+00 | 0.000E+00 | 0.763 |
| TH-232 | 5.539E+00 | 9.755E+00 | 1.313E+01 | 0.000E+00 | 0.422 |

---- Non-Identified Nuclides ----

| Nuclide | Key-Line Activity (pCi/L) | K.L. Ided | Act error | MDA (pCi/L) | MDA error | Act/MDA |
|---------|---------------------------------|--------------|-----------|---------------------|-----------|---------|
| BE-7 | -7.825E+00 | | 2.041E+01 | 3.381E+01 | 0.000E+00 | -0.231 |
| NA-24 | -2.796E+02 | | 2.007E+02 | Half-Life too short | | |
| K-40 | -1.181E+01 | | 3.140E+01 | 5.748E+01 | 0.000E+00 | -0.205 |
| CR-51 | -8.831E+00 | | 2.643E+01 | 4.431E+01 | 0.000E+00 | -0.199 |
| MN-54 | -3.157E-01 | | 2.011E+00 | 3.391E+00 | 0.000E+00 | -0.093 |
| CO-57 | 1.597E+00 | | 2.212E+00 | 3.738E+00 | 0.000E+00 | 0.427 |
| CO-58 | -7.698E-01 | | 2.304E+00 | 3.860E+00 | 0.000E+00 | -0.199 |
| FE-59 | 5.343E+00 | | 4.471E+00 | 8.165E+00 | 0.000E+00 | 0.654 |
| CO-60 | 4.332E-01 | | 1.862E+00 | 3.258E+00 | 0.000E+00 | 0.133 |
| ZN-65 | 7.734E+00 | | 5.031E+00 | 8.072E+00 | 0.000E+00 | 0.958 |
| SE-75 | 5.929E-01 | | 2.977E+00 | 5.070E+00 | 0.000E+00 | 0.117 |
| SR-85 | 1.814E+01 | | 2.724E+00 | 5.282E+00 | 0.000E+00 | 3.434 |
| Y-88 | 1.098E+00 | | 2.172E+00 | 3.944E+00 | 0.000E+00 | 0.278 |
| NB-94 | -3.938E-02 | | 1.906E+00 | 3.246E+00 | 0.000E+00 | -0.012 |
| NB-95 | 2.333E+00 | | 2.241E+00 | 3.978E+00 | 0.000E+00 | 0.586 |
| ZR-95 | -2.329E-01 | | 3.925E+00 | 6.678E+00 | 0.000E+00 | -0.035 |
| MO-99 | -1.019E+02 | | 1.071E+03 | 1.820E+03 | 0.000E+00 | -0.056 |
| RU-103 | 1.801E+00 | | 2.734E+00 | 4.676E+00 | 0.000E+00 | 0.385 |
| RU-106 | 2.987E+00 | | 1.892E+01 | 3.176E+01 | 0.000E+00 | 0.094 |
| AG-110m | -1.003E+00 | | 2.002E+00 | 3.359E+00 | 0.000E+00 | -0.299 |
| SN-113 | -1.714E+00 | | 2.907E+00 | 4.814E+00 | 0.000E+00 | -0.356 |
| SB-124 | 4.574E+00 | | 4.758E+00 | 4.026E+00 | 0.000E+00 | 1.136 |
| SB-125 | -8.946E-01 | | 5.983E+00 | 1.001E+01 | 0.000E+00 | -0.089 |
| TE-129M | 1.676E+01 | | 3.214E+01 | 5.482E+01 | 0.000E+00 | 0.306 |
| I-131 | -3.836E+00 | | 8.971E+00 | 1.496E+01 | 0.000E+00 | -0.256 |
| BA-133 | 5.560E+00 | | 3.307E+00 | 5.021E+00 | 0.000E+00 | 1.107 |
| CS-134 | 1.158E+01 | | 4.577E+00 | 4.411E+00 | 0.000E+00 | 2.625 |
| CS-136 | 1.968E+00 | | 4.744E+00 | 8.202E+00 | 0.000E+00 | 0.240 |
| CS-137 | 7.849E-01 | | 2.166E+00 | 3.749E+00 | 0.000E+00 | 0.209 |
| CE-139 | -1.862E+00 | | 2.344E+00 | 3.842E+00 | 0.000E+00 | -0.485 |
| BA-140 | 4.937E+00 | | 1.787E+01 | 3.019E+01 | 0.000E+00 | 0.164 |
| LA-140 | 5.019E+00 | | 5.206E+00 | 9.656E+00 | 0.000E+00 | 0.520 |
| CE-141 | 7.162E+00 | | 6.133E+00 | 8.901E+00 | 0.000E+00 | 0.805 |
| CE-144 | -3.862E+00 | | 1.994E+01 | 2.813E+01 | 0.000E+00 | -0.137 |
| EU-152 | -1.230E+01 | | 7.850E+00 | 1.055E+01 | 0.000E+00 | -1.166 |
| EU-154 | 3.088E+00 | | 4.482E+00 | 7.568E+00 | 0.000E+00 | 0.408 |
| U-235 | 1.415E+01 | | 2.098E+01 | 2.880E+01 | 0.000E+00 | 0.491 |
| U-238 | -4.946E+01 | | 2.332E+02 | 3.682E+02 | 0.000E+00 | -0.134 |
| AM-241 | 1.756E+01 | | 1.369E+01 | 1.972E+01 | 0.000E+00 | 0.890 |

| | | | | | |
|--------------|-------------|------------------|-------------|------------------|-------------|
| A,23L28845-5 | ,06/12/2006 | 23:01,05/26/2006 | 14:10, | 3.056E+00,WG | L28845-5 DR |
| B,23L28845-5 | ,LIBD | | ,06/01/2006 | 10:14,233L082404 | |
| C,RA-226 | ,YES, | 1.515E+01, | 6.143E+01, | 8.567E+01,, | 0.177 |
| C,AC-228 | ,YES, | 5.395E+00, | 1.289E+01, | 1.216E+01,, | 0.444 |
| C,TH-228 | ,YES, | 4.644E+00, | 4.629E+00, | 6.084E+00,, | 0.763 |
| C,TH-232 | ,YES, | 5.539E+00, | 9.755E+00, | 1.313E+01,, | 0.422 |
| C,BE-7 | ,NO , | -7.825E+00, | 2.041E+01, | 3.381E+01,, | -0.231 |
| C,K-40 | ,NO , | -1.181E+01, | 3.140E+01, | 5.748E+01,, | -0.205 |
| C,CR-51 | ,NO , | -8.831E+00, | 2.643E+01, | 4.431E+01,, | -0.199 |
| C,MN-54 | ,NO , | -3.157E-01, | 2.011E+00, | 3.391E+00,, | -0.093 |
| C,CO-57 | ,NO , | 1.597E+00, | 2.212E+00, | 3.738E+00,, | 0.427 |
| C,CO-58 | ,NO , | -7.698E-01, | 2.304E+00, | 3.860E+00,, | -0.199 |
| C,FE-59 | ,NO , | 5.343E+00, | 4.471E+00, | 8.165E+00,, | 0.654 |
| C,CO-60 | ,NO , | 4.332E-01, | 1.862E+00, | 3.258E+00,, | 0.133 |
| C,ZN-65 | ,NO , | 7.734E+00, | 5.031E+00, | 8.072E+00,, | 0.958 |
| C,SE-75 | ,NO , | 5.929E-01, | 2.977E+00, | 5.070E+00,, | 0.117 |
| C,SR-85 | ,NO , | 1.814E+01, | 2.724E+00, | 5.282E+00,, | 3.434 |
| C,Y-88 | ,NO , | 1.098E+00, | 2.172E+00, | 3.944E+00,, | 0.278 |
| C,NB-94 | ,NO , | -3.938E-02, | 1.906E+00, | 3.246E+00,, | -0.012 |
| C,NB-95 | ,NO , | 2.333E+00, | 2.241E+00, | 3.978E+00,, | 0.586 |
| C,ZR-95 | ,NO , | -2.329E-01, | 3.925E+00, | 6.678E+00,, | -0.035 |
| C,MO-99 | ,NO , | -1.019E+02, | 1.071E+03, | 1.820E+03,, | -0.056 |
| C,RU-103 | ,NO , | 1.801E+00, | 2.734E+00, | 4.676E+00,, | 0.385 |
| C,RU-106 | ,NO , | 2.987E+00, | 1.892E+01, | 3.176E+01,, | 0.094 |
| C,AG-110m | ,NO , | -1.003E+00, | 2.002E+00, | 3.359E+00,, | -0.299 |
| C,SN-113 | ,NO , | -1.714E+00, | 2.907E+00, | 4.814E+00,, | -0.356 |
| C,SB-124 | ,NO , | 4.574E+00, | 4.758E+00, | 4.026E+00,, | 1.136 |
| C,SB-125 | ,NO , | -8.946E-01, | 5.983E+00, | 1.001E+01,, | -0.089 |
| C,TE-129M | ,NO , | 1.676E+01, | 3.214E+01, | 5.482E+01,, | 0.306 |
| C,I-131 | ,NO , | -3.836E+00, | 8.971E+00, | 1.496E+01,, | -0.256 |
| C,BA-133 | ,NO , | 5.560E+00, | 3.307E+00, | 5.021E+00,, | 1.107 |
| C,CS-134 | ,NO , | 1.158E+01, | 4.577E+00, | 4.411E+00,, | 2.625 |
| C,CS-136 | ,NO , | 1.968E+00, | 4.744E+00, | 8.202E+00,, | 0.240 |
| C,CS-137 | ,NO , | 7.849E-01, | 2.166E+00, | 3.749E+00,, | 0.209 |
| C,CE-139 | ,NO , | -1.862E+00, | 2.344E+00, | 3.842E+00,, | -0.485 |
| C,BA-140 | ,NO , | 4.937E+00, | 1.787E+01, | 3.019E+01,, | 0.164 |
| C,LA-140 | ,NO , | 5.019E+00, | 5.206E+00, | 9.656E+00,, | 0.520 |
| C,CE-141 | ,NO , | 7.162E+00, | 6.133E+00, | 8.901E+00,, | 0.805 |
| C,CE-144 | ,NO , | -3.862E+00, | 1.994E+01, | 2.813E+01,, | -0.137 |
| C,EU-152 | ,NO , | -1.230E+01, | 7.850E+00, | 1.055E+01,, | -1.166 |
| C,EU-154 | ,NO , | 3.088E+00, | 4.482E+00, | 7.568E+00,, | 0.408 |
| C,U-235 | ,NO , | 1.415E+01, | 2.098E+01, | 2.880E+01,, | 0.491 |
| C,U-238 | ,NO , | -4.946E+01, | 2.332E+02, | 3.682E+02,, | -0.134 |
| C,AM-241 | ,NO , | 1.756E+01, | 1.369E+01, | 1.972E+01,, | 0.890 |

Sec. Review: Analyst: LIMS: ✓

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VAX/VMS Teledyne Brown Eng. Laboratory Gamma Report: 13-JUN-2006 05:08:59.11

TBE23 03017322 HpGe ***** Aquisition Date/Time: 12-JUN-2006 23:08:27.63

LIMS No., Customer Name, Client ID: WG L28845-6 EX DRES

Sample ID : 23L28845-6 Smple Date: 26-MAY-2006 15:35:00.

Sample Type : WG Geometry : 233L082404

Quantity : 3.10810E+00 L BKGFILE : 23BG060306MT

Start Channel : 50 Energy Tol : 1.50000 Real Time : 0 06:00:14.90

End Channel : 4090 Pk Srch Sens: 5.00000 Live time : 0 06:00:00.00

MDA Constant : 0.00 Library Used: LIBD

| Pk | It | Energy | Area | Bkgnd | FWHM | Channel | %Eff | Cts/Sec | %Err | Fit |
|----|----|----------|------|-------|------|---------|----------|----------|--------|----------|
| 1 | 9 | 33.57* | 19 | 30 | 0.93 | 67.46 | 7.93E-02 | 8.57E-04 | 145.6 | 5.56E+00 |
| 2 | 9 | 34.80* | 51 | 102 | 1.82 | 69.92 | 9.81E-02 | 2.37E-03 | 84.8 | |
| 3 | 9 | 36.72* | 1 | 329 | 2.69 | 73.76 | 1.33E-01 | 3.34E-05 | ***** | |
| 4 | 9 | 38.10* | 71 | 340 | 1.95 | 76.52 | 1.61E-01 | 3.28E-03 | 67.5 | |
| 5 | 0 | 92.40* | 86 | 781 | 1.15 | 185.05 | 1.93E+00 | 4.00E-03 | 66.9 | |
| 6 | 0 | 139.11* | 28 | 795 | 1.18 | 278.38 | 2.32E+00 | 1.29E-03 | 190.5 | |
| 7 | 0 | 198.31* | 88 | 526 | 1.19 | 396.71 | 2.11E+00 | 4.05E-03 | 51.5 | |
| 8 | 0 | 238.34* | 172 | 530 | 1.24 | 476.72 | 1.90E+00 | 7.94E-03 | 29.5 | |
| 9 | 0 | 582.64* | 49 | 170 | 1.20 | 1164.97 | 9.72E-01 | 2.29E-03 | 61.0 | |
| 10 | 0 | 595.38 | 61 | 165 | 0.91 | 1190.44 | 9.56E-01 | 2.81E-03 | 41.8 | |
| 11 | 0 | 608.68* | 30 | 126 | 1.69 | 1217.04 | 9.41E-01 | 1.40E-03 | 88.9 | |
| 12 | 0 | 912.38* | 58 | 132 | 5.58 | 1824.29 | 7.08E-01 | 2.70E-03 | 55.6 | |
| 13 | 0 | 968.86* | 2 | 57 | 1.57 | 1937.25 | 6.79E-01 | 9.66E-05 | 5858.0 | |
| 14 | 0 | 1461.02* | 61 | 49 | 1.78 | 2921.68 | 5.10E-01 | 2.82E-03 | 42.5 | |
| 15 | 0 | 1764.29* | 10 | 49 | 2.16 | 3528.48 | 4.38E-01 | 4.70E-04 | 197.9 | |

Flag: "*" = Peak area was modified by background subtraction

Nuclide Line Activity Report

Nuclide Type: natural

| Nuclide | Energy | Area | %Abn | %Eff | Uncorrected pCi/L | Decay Corr pCi/L | 2-Sigma %Error |
|---------|---------|-------|--------|-----------|-------------------|------------------|----------------|
| K-40 | 1460.81 | 61 | 10.67* | 5.095E-01 | 4.513E+01 | 4.513E+01 | 85.09 |
| AC-228 | 835.50 | ----- | 1.75 | 7.515E-01 | ----- | Line Not Found | ----- |
| | 911.07 | 58 | 27.70* | 7.077E-01 | 1.198E+01 | 1.205E+01 | 111.30 |
| TH-228 | 238.63 | 172 | 44.60* | 1.901E+00 | 8.142E+00 | 8.284E+00 | 58.94 |
| | 240.98 | ----- | 3.95 | 1.888E+00 | ----- | Line Not Found | ----- |
| TH-232 | 583.14 | 49 | 30.25 | 9.719E-01 | 6.761E+00 | 6.761E+00 | 121.91 |
| | 911.07 | 58 | 27.70* | 7.077E-01 | 1.198E+01 | 1.198E+01 | 111.30 |
| | 969.11 | 2 | 16.60 | 6.794E-01 | 7.449E-01 | 7.449E-01 | 1716.06 |

Flag: "*" = Keyline

Summary of Nuclide Activity

Page : 2

Sample ID : 23L28845-6

Acquisition date : 12-JUN-2006 23:08:27

| | | |
|---|----|--------|
| Total number of lines in spectrum | 15 | |
| Number of unidentified lines | 10 | |
| Number of lines tentatively identified by NID | 5 | 33.33% |

Nuclide Type : natural

| Nuclide | Hlife | Decay | Uncorrected pCi/L | Decay Corr pCi/L | Decay Corr 2-Sigma Error | 2-Sigma %Error | Flags |
|------------------|-----------|-------|----------------------|---------------------|-----------------------------|-------------------|-------|
| K-40 | 1.28E+09Y | 1.00 | 4.513E+01 | 4.513E+01 | 3.840E+01 | 85.09 | |
| AC-228 | 5.75Y | 1.01 | 1.198E+01 | 1.205E+01 | 1.342E+01 | 111.30 | |
| TH-228 | 1.91Y | 1.02 | 8.142E+00 | 8.284E+00 | 4.883E+00 | 58.94 | |
| TH-232 | 1.41E+10Y | 1.00 | 1.198E+01 | 1.198E+01 | 1.334E+01 | 111.30 | |
| | | | ----- | ----- | | | |
| Total Activity : | | | 7.724E+01 | 7.745E+01 | | | |

| | | |
|------------------------|-----------|-----------|
| Grand Total Activity : | 7.724E+01 | 7.745E+01 |
|------------------------|-----------|-----------|

Flags: "K" = Keyline not found
 "E" = Manually edited

"M" = Manually accepted
 "A" = Nuclide specific abn. limit

Unidentified Energy Lines
Sample ID : 23L28845-6

Page : 3
Acquisition date : 12-JUN-2006 23:08:27

| It | Energy | Area | Bkgnd | FWHM | Channel | Left | Pw | Cts/Sec | %Err | %Eff | Flags |
|----|---------|------|-------|------|---------|------|----|----------|------|----------|-------|
| 9 | 33.57 | 19 | 30 | 0.93 | 67.46 | 64 | 27 | 8.57E-04 | **** | 7.93E-02 | |
| 9 | 34.80 | 51 | 102 | 1.82 | 69.92 | 64 | 27 | 2.37E-03 | **** | 9.81E-02 | |
| 9 | 36.72 | 1 | 329 | 2.69 | 73.76 | 64 | 27 | 3.34E-05 | **** | 1.33E-01 | |
| 9 | 38.10 | 71 | 340 | 1.95 | 76.52 | 64 | 27 | 3.28E-03 | **** | 1.61E-01 | |
| 0 | 92.40 | 86 | 781 | 1.15 | 185.05 | 181 | 8 | 4.00E-03 | **** | 1.93E+00 | |
| 0 | 139.11 | 28 | 795 | 1.18 | 278.38 | 276 | 8 | 1.29E-03 | **** | 2.32E+00 | |
| 0 | 198.31 | 88 | 526 | 1.19 | 396.71 | 393 | 8 | 4.05E-03 | **** | 2.11E+00 | |
| 0 | 595.38 | 61 | 165 | 0.91 | 1190.44 | 1187 | 10 | 2.81E-03 | 83.6 | 9.56E-01 | |
| 0 | 608.68 | 30 | 126 | 1.69 | 1217.04 | 1212 | 9 | 1.40E-03 | **** | 9.41E-01 | |
| 0 | 1764.29 | 10 | 49 | 2.16 | 3528.48 | 3520 | 21 | 4.70E-04 | **** | 4.38E-01 | |

Flags: "T" = Tentatively associated

Summary of Nuclide Activity

| | |
|---|---------------|
| Total number of lines in spectrum | 15 |
| Number of unidentified lines | 10 |
| Number of lines tentatively identified by NID | 5 33.33% |

Nuclide Type : natural

| Nuclide | Hlife | Decay | Wtd Mean | Wtd Mean | Decay Corr | 2-Sigma | Error | %Error | Flags |
|------------------|-----------|-------|-------------|------------|------------|---------|-------|--------|-------|
| | | | Uncorrected | Decay Corr | | | | | |
| | | | pCi/L | pCi/L | | | | | |
| K-40 | 1.28E+09Y | 1.00 | 4.513E+01 | 4.513E+01 | 3.840E+01 | 85.09 | | | |
| AC-228 | 5.75Y | 1.01 | 6.990E+00 | 7.030E+00 | 15.12E+00 | 215.03 | | | |
| TH-228 | 1.91Y | 1.02 | 8.142E+00 | 8.284E+00 | 4.883E+00 | 58.94 | | | |
| TH-232 | 1.41E+10Y | 1.00 | 4.995E+00 | 4.995E+00 | 6.928E+00 | 138.71 | | | |
| Total Activity : | | | 6.526E+01 | 6.544E+01 | | | | | |

Grand Total Activity : 6.526E+01 6.544E+01

Flags: "K" = Keyline not found "M" = Manually accepted
"E" = Manually edited "A" = Nuclide specific abn. limit

Interference Report

| Interfering | | Interfered | |
|-------------|--------|------------|--------|
| Nuclide | Line | Nuclide | Line |
| TH-232 | 911.07 | AC-228 | 911.07 |

Combined Activity-MDA Report

---- Identified Nuclides ----

| Nuclide | Activity (pCi/L) | Act error | MDA (pCi/L) | MDA error | Act/MDA |
|---------|---------------------|-----------|----------------|-----------|---------|
| K-40 | 4.513E+01 | 3.840E+01 | 3.399E+01 | 0.000E+00 | 1.328 |
| AC-228 | 7.030E+00 | 1.512E+01 | 1.169E+01 | 0.000E+00 | 0.601 |
| TH-228 | 8.284E+00 | 4.883E+00 | 7.167E+00 | 0.000E+00 | 1.156 |

| | | | | | |
|--------|-----------|-----------|-----------|-----------|-------|
| TH-232 | 4.995E+00 | 6.928E+00 | 1.394E+01 | 0.000E+00 | 0.358 |
|--------|-----------|-----------|-----------|-----------|-------|

---- Non-Identified Nuclides ----

| Nuclide | Key-Line Activity (pCi/L) | K.L. Ided | Act error | MDA (pCi/L) | MDA error | Act/MDA |
|---------|---------------------------------|--------------|-----------|---------------------|-----------|---------|
| BE-7 | 9.129E+00 | | 2.335E+01 | 3.987E+01 | 0.000E+00 | 0.229 |
| NA-24 | -8.464E+01 | | 2.702E+02 | Half-Life too short | | |
| CR-51 | -3.412E+00 | | 2.885E+01 | 4.874E+01 | 0.000E+00 | -0.070 |
| MN-54 | -1.170E+00 | | 2.130E+00 | 3.538E+00 | 0.000E+00 | -0.331 |
| CO-57 | 7.921E-02 | | 2.424E+00 | 4.062E+00 | 0.000E+00 | 0.020 |
| CO-58 | -1.196E+00 | | 2.470E+00 | 4.122E+00 | 0.000E+00 | -0.290 |
| FE-59 | 3.699E-01 | | 4.937E+00 | 8.621E+00 | 0.000E+00 | 0.043 |
| CO-60 | -4.632E-01 | | 2.113E+00 | 3.613E+00 | 0.000E+00 | -0.128 |
| ZN-65 | 1.324E+00 | | 4.534E+00 | 7.998E+00 | 0.000E+00 | 0.166 |
| SE-75 | -8.570E-02 | | 3.341E+00 | 5.677E+00 | 0.000E+00 | -0.015 |
| SR-85 | 1.606E+01 | | 3.004E+00 | 5.783E+00 | 0.000E+00 | 2.777 |
| Y-88 | -1.257E+00 | | 2.375E+00 | 4.014E+00 | 0.000E+00 | -0.313 |
| NB-94 | 6.340E-01 | | 2.098E+00 | 3.639E+00 | 0.000E+00 | 0.174 |
| NB-95 | 1.229E+00 | | 2.532E+00 | 4.427E+00 | 0.000E+00 | 0.278 |
| ZR-95 | -2.439E+00 | | 4.306E+00 | 7.178E+00 | 0.000E+00 | -0.340 |
| MO-99 | 2.388E+02 | | 1.234E+03 | 2.137E+03 | 0.000E+00 | 0.112 |
| RU-103 | 4.936E-01 | | 2.975E+00 | 5.036E+00 | 0.000E+00 | 0.098 |
| RU-106 | -5.125E+00 | | 2.130E+01 | 3.624E+01 | 0.000E+00 | -0.141 |
| AG-110m | -5.599E-02 | | 2.294E+00 | 3.931E+00 | 0.000E+00 | -0.014 |
| SN-113 | 4.005E-01 | | 3.187E+00 | 5.406E+00 | 0.000E+00 | 0.074 |
| SB-124 | 2.479E+00 | | 5.594E+00 | 4.453E+00 | 0.000E+00 | 0.557 |
| SB-125 | -7.242E+00 | | 6.573E+00 | 1.067E+01 | 0.000E+00 | -0.679 |
| TE-129M | 1.078E+01 | | 3.441E+01 | 5.870E+01 | 0.000E+00 | 0.184 |
| I-131 | -1.450E+00 | | 1.027E+01 | 1.729E+01 | 0.000E+00 | -0.084 |
| BA-133 | 6.786E-01 | | 3.132E+00 | 5.330E+00 | 0.000E+00 | 0.127 |
| CS-134 | 5.645E+00 | | 4.161E+00 | 4.285E+00 | 0.000E+00 | 1.317 |
| CS-136 | 5.719E+00 | | 5.348E+00 | 9.590E+00 | 0.000E+00 | 0.596 |
| CS-137 | 2.510E+00 | | 2.399E+00 | 4.293E+00 | 0.000E+00 | 0.585 |
| CE-139 | -6.201E-01 | | 2.596E+00 | 4.302E+00 | 0.000E+00 | -0.144 |
| BA-140 | -1.432E+01 | | 1.946E+01 | 3.170E+01 | 0.000E+00 | -0.452 |
| LA-140 | -2.373E+00 | | 6.018E+00 | 1.032E+01 | 0.000E+00 | -0.230 |
| CE-141 | 3.897E+00 | | 6.736E+00 | 9.688E+00 | 0.000E+00 | 0.402 |
| CE-144 | -1.090E+01 | | 2.231E+01 | 3.126E+01 | 0.000E+00 | -0.349 |
| EU-152 | -6.299E+00 | | 7.266E+00 | 1.199E+01 | 0.000E+00 | -0.525 |
| EU-154 | 1.764E+00 | | 4.941E+00 | 8.325E+00 | 0.000E+00 | 0.212 |
| RA-226 | -2.891E+01 | | 6.580E+01 | 1.017E+02 | 0.000E+00 | -0.284 |
| U-235 | 1.788E+01 | | 2.255E+01 | 3.154E+01 | 0.000E+00 | 0.567 |
| U-238 | -5.639E+01 | | 2.584E+02 | 4.166E+02 | 0.000E+00 | -0.135 |
| AM-241 | -1.638E+01 | | 1.358E+01 | 2.180E+01 | 0.000E+00 | -0.752 |

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A,23L28845-6      ,06/13/2006 05:09,05/26/2006 15:35,    3.108E+00,WG L28845-6 EX
B,23L28845-6      ,LIBD      ,06/01/2006 10:14,233L082404
C,K-40      ,YES,    4.513E+01,    3.840E+01,    3.399E+01,,    1.328
C,AC-228    ,YES,    7.030E+00,    1.512E+01,    1.169E+01,,    0.601
C,TH-228    ,YES,    8.284E+00,    4.883E+00,    7.167E+00,,    1.156
C,TH-232    ,YES,    4.995E+00,    6.928E+00,    1.394E+01,,    0.358
C,BE-7      ,NO ,    9.129E+00,    2.335E+01,    3.987E+01,,    0.229
C,CR-51     ,NO ,   -3.412E+00,    2.885E+01,    4.874E+01,,   -0.070
C,MN-54     ,NO ,   -1.170E+00,    2.130E+00,    3.538E+00,,   -0.331
C,CO-57     ,NO ,    7.921E-02,    2.424E+00,    4.062E+00,,    0.020
C,CO-58     ,NO ,   -1.196E+00,    2.470E+00,    4.122E+00,,   -0.290
C,FE-59     ,NO ,    3.699E-01,    4.937E+00,    8.621E+00,,    0.043
C,CO-60     ,NO ,   -4.632E-01,    2.113E+00,    3.613E+00,,   -0.128
C,ZN-65     ,NO ,    1.324E+00,    4.534E+00,    7.998E+00,,    0.166
C,SE-75     ,NO ,   -8.570E-02,    3.341E+00,    5.677E+00,,   -0.015
C,SR-85     ,NO ,    1.606E+01,    3.004E+00,    5.783E+00,,    2.777
C,Y-88      ,NO ,   -1.257E+00,    2.375E+00,    4.014E+00,,   -0.313
C,NB-94     ,NO ,    6.340E-01,    2.098E+00,    3.639E+00,,    0.174
C,NB-95     ,NO ,    1.229E+00,    2.532E+00,    4.427E+00,,    0.278
C,ZR-95     ,NO ,   -2.439E+00,    4.306E+00,    7.178E+00,,   -0.340
C,MO-99     ,NO ,    2.388E+02,    1.234E+03,    2.137E+03,,    0.112
C,RU-103    ,NO ,    4.936E-01,    2.975E+00,    5.036E+00,,    0.098
C,RU-106    ,NO ,   -5.125E+00,    2.130E+01,    3.624E+01,,   -0.141
C,AG-110m   ,NO ,   -5.599E-02,    2.294E+00,    3.931E+00,,   -0.014
C,SN-113    ,NO ,    4.005E-01,    3.187E+00,    5.406E+00,,    0.074
C,SB-124    ,NO ,    2.479E+00,    5.594E+00,    4.453E+00,,    0.557
C,SB-125    ,NO ,   -7.242E+00,    6.573E+00,    1.067E+01,,   -0.679
C,TE-129M   ,NO ,    1.078E+01,    3.441E+01,    5.870E+01,,    0.184
C,I-131     ,NO ,   -1.450E+00,    1.027E+01,    1.729E+01,,   -0.084
C,BA-133    ,NO ,    6.786E-01,    3.132E+00,    5.330E+00,,    0.127
C,CS-134    ,NO ,    5.645E+00,    4.161E+00,    4.285E+00,,    1.317
C,CS-136    ,NO ,    5.719E+00,    5.348E+00,    9.590E+00,,    0.596
C,CS-137    ,NO ,    2.510E+00,    2.399E+00,    4.293E+00,,    0.585
C,CE-139    ,NO ,   -6.201E-01,    2.596E+00,    4.302E+00,,   -0.144
C,BA-140    ,NO ,   -1.432E+01,    1.946E+01,    3.170E+01,,   -0.452
C,LA-140    ,NO ,   -2.373E+00,    6.018E+00,    1.032E+01,,   -0.230
C,CE-141    ,NO ,    3.897E+00,    6.736E+00,    9.688E+00,,    0.402
C,CE-144    ,NO ,   -1.090E+01,    2.231E+01,    3.126E+01,,   -0.349
C,EU-152    ,NO ,   -6.299E+00,    7.266E+00,    1.199E+01,,   -0.525
C,EU-154    ,NO ,    1.764E+00,    4.941E+00,    8.325E+00,,    0.212
C,RA-226    ,NO ,   -2.891E+01,    6.580E+01,    1.017E+02,,   -0.284
C,U-235     ,NO ,    1.788E+01,    2.255E+01,    3.154E+01,,    0.567
C,U-238     ,NO ,   -5.639E+01,    2.584E+02,    4.166E+02,,   -0.135
C,AM-241    ,NO ,   -1.638E+01,    1.358E+01,    2.180E+01,,   -0.752

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Sec. Review: Analyst: LIMS: ✓

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VAX/VMS Teledyne Brown Eng. Laboratory Gamma Report: 12-JUN-2006 22:56:10.42
 TBE07 P-10768B HpGe ***** Aquisition Date/Time: 12-JUN-2006 18:20:47.50

LIMS No., Customer Name, Client ID: WG L28845-7 DRESDEN

Sample ID : 07L28845-7 Smple Date: 26-MAY-2006 17:00:00.
 Sample Type : WG Geometry : 073L082504
 Quantity : 3.05840E+00 L BKGFILE : 07BG060306MT
 Start Channel : 40 Energy Tol : 1.00000 Real Time : 0 04:35:14.64
 End Channel : 4090 Pk Srch Sens: 5.00000 Live time : 0 04:35:11.42
 MDA Constant : 0.00 Library Used: LIBD

| Pk | It | Energy | Area | Bkgnd | FWHM | Channel | %Eff | Cts/Sec | %Err | Fit |
|----|----|----------|------|-------|------|---------|----------|----------|------|----------|
| 1 | 1 | 66.28* | 148 | 542 | 1.24 | 133.13 | 8.04E-01 | 8.99E-03 | 30.9 | 3.19E+00 |
| 2 | 1 | 139.96* | 104 | 401 | 1.32 | 280.61 | 2.36E+00 | 6.32E-03 | 37.6 | 1.61E+00 |
| 3 | 1 | 595.95 | 89 | 82 | 1.41 | 1193.07 | 1.10E+00 | 5.41E-03 | 19.8 | 2.45E+00 |
| 4 | 1 | 609.35* | 170 | 146 | 2.21 | 1219.88 | 1.09E+00 | 1.03E-02 | 18.8 | 1.09E+00 |
| 5 | 1 | 1120.69* | 41 | 43 | 2.13 | 2242.60 | 7.03E-01 | 2.51E-03 | 40.1 | 5.48E-01 |
| 6 | 1 | 1461.29* | 51 | 25 | 2.69 | 2923.56 | 5.83E-01 | 3.07E-03 | 39.7 | 1.13E+00 |
| 7 | 1 | 1765.13* | 41 | 21 | 2.89 | 3530.84 | 5.12E-01 | 2.50E-03 | 35.1 | 2.93E+00 |

Flag: "*" = Peak area was modified by background subtraction

Nuclide Line Activity Report

Nuclide Type: natural

| Nuclide | Energy | Area | %Abn | %Eff | Uncorrected pCi/L | Decay Corr pCi/L | 2-Sigma %Error |
|---------|---------|------|--------|-----------|----------------------|---------------------|-------------------|
| K-40 | 1460.81 | 51 | 10.67* | 5.826E-01 | 4.357E+01 | 4.357E+01 | 79.50 |

Flag: "*" = Keyline

Summary of Nuclide Activity

Page : 2

Sample ID : 07L28845-7

Acquisition date : 12-JUN-2006 18:20:47

| | | |
|---|---|--------|
| Total number of lines in spectrum | 7 | |
| Number of unidentified lines | 6 | |
| Number of lines tentatively identified by NID | 1 | 14.29% |

Nuclide Type : natural

| Nuclide | Hlife | Decay | Uncorrected pCi/L | Decay Corr pCi/L | Decay Corr 2-Sigma Error | 2-Sigma %Error | Flags |
|------------------|-----------|-------|----------------------|---------------------|-----------------------------|-------------------|-------|
| K-40 | 1.28E+09Y | 1.00 | 4.357E+01 | 4.357E+01 | 3.464E+01 | 79.50 | |
| Total Activity : | | | 4.357E+01 | 4.357E+01 | | | |

| | | |
|------------------------|-----------|-----------|
| Grand Total Activity : | 4.357E+01 | 4.357E+01 |
|------------------------|-----------|-----------|

Flags: "K" = Keyline not found
 "E" = Manually edited

"M" = Manually accepted
 "A" = Nuclide specific abn. limit

Unidentified Energy Lines
Sample ID : 07L28845-7

Page : 3
Acquisition date : 12-JUN-2006 18:20:47

| It | Energy | Area | Bkgnd | FWHM | Channel | Left | Pw | Cts/Sec | %Err | %Eff | Flags |
|----|---------|------|-------|------|---------|------|----|----------|------|----------|-------|
| 1 | 66.28 | 148 | 542 | 1.24 | 133.13 | 129 | 9 | 8.99E-03 | 61.9 | 8.04E-01 | |
| 1 | 139.96 | 104 | 401 | 1.32 | 280.61 | 277 | 8 | 6.32E-03 | 75.2 | 2.36E+00 | |
| 1 | 595.95 | 89 | 82 | 1.41 | 1193.07 | 1190 | 7 | 5.41E-03 | 39.5 | 1.10E+00 | |
| 1 | 609.35 | 170 | 146 | 2.21 | 1219.88 | 1213 | 14 | 1.03E-02 | 37.6 | 1.09E+00 | |
| 1 | 1120.69 | 41 | 43 | 2.13 | 2242.60 | 2236 | 12 | 2.51E-03 | 80.3 | 7.03E-01 | |
| 1 | 1765.13 | 41 | 21 | 2.89 | 3530.84 | 3523 | 17 | 2.50E-03 | 70.2 | 5.12E-01 | |

Flags: "T" = Tentatively associated

Summary of Nuclide Activity

| | |
|---|---------------|
| Total number of lines in spectrum | 7 |
| Number of unidentified lines | 6 |
| Number of lines tentatively identified by NID | 1 14.29% |

Nuclide Type : natural

| Nuclide | Hlife | Decay | Wtd Mean Uncorrected pCi/L | Wtd Mean Decay Corr pCi/L | Decay Corr 2-Sigma Error | 2-Sigma %Error | Flags |
|------------------|-----------|-------|----------------------------------|---------------------------------|-----------------------------|-------------------|-------|
| K-40 | 1.28E+09Y | 1.00 | 4.357E+01 | 4.357E+01 | 3.464E+01 | 79.50 | |
| Total Activity : | | | 4.357E+01 | 4.357E+01 | | | |

Grand Total Activity : 4.357E+01 4.357E+01

Flags: "K" = Keyline not found "M" = Manually accepted
"E" = Manually edited "A" = Nuclide specific abn. limit

Interference Report

No interference correction performed

Combined Activity-MDA Report

---- Identified Nuclides ----

| Nuclide | Activity (pCi/L) | Act error | MDA (pCi/L) | MDA error | Act/MDA |
|---------|---------------------|-----------|----------------|-----------|---------|
| K-40 | 4.357E+01 | 3.464E+01 | 3.911E+01 | 0.000E+00 | 1.114 |

---- Non-Identified Nuclides ----


| Nuclide | Key-Line Activity (pCi/L) | K.L. Ided | Act error | MDA (pCi/L) | MDA error | Act/MDA |
|---------|---------------------------------|--------------|-----------|---------------------|-----------|---------|
| BE-7 | 4.800E+00 | | 2.367E+01 | 3.888E+01 | 0.000E+00 | 0.123 |
| NA-24 | -5.118E+02 | | 2.304E+02 | Half-Life too short | | |
| CR-51 | -4.381E+01 | | 2.824E+01 | 4.456E+01 | 0.000E+00 | -0.983 |
| MN-54 | 1.030E+00 | | 2.284E+00 | 3.866E+00 | 0.000E+00 | 0.266 |
| CO-57 | -1.283E+00 | | 2.344E+00 | 3.778E+00 | 0.000E+00 | -0.340 |

| | | | | | |
|---------|------------|-----------|-----------|-----------|--------|
| CO-58 | -1.429E+00 | 2.494E+00 | 3.995E+00 | 0.000E+00 | -0.358 |
| FE-59 | 2.398E+00 | 5.262E+00 | 8.966E+00 | 0.000E+00 | 0.267 |
| CO-60 | 7.635E-01 | 2.280E+00 | 3.820E+00 | 0.000E+00 | 0.200 |
| ZN-65 | 1.449E+01 | 5.909E+00 | 9.953E+00 | 0.000E+00 | 1.455 |
| SE-75 | 1.148E+00 | 3.337E+00 | 5.507E+00 | 0.000E+00 | 0.209 |
| SR-85 | 2.677E+01 | 3.366E+00 | 6.803E+00 | 0.000E+00 | 3.936 |
| Y-88 | 1.166E+00 | 2.757E+00 | 4.727E+00 | 0.000E+00 | 0.247 |
| NB-94 | 6.003E-01 | 2.283E+00 | 3.774E+00 | 0.000E+00 | 0.159 |
| NB-95 | 5.396E-01 | 2.686E+00 | 4.508E+00 | 0.000E+00 | 0.120 |
| ZR-95 | 6.590E-01 | 4.899E+00 | 8.013E+00 | 0.000E+00 | 0.082 |
| MO-99 | 1.288E+01 | 1.314E+03 | 2.138E+03 | 0.000E+00 | 0.006 |
| RU-103 | 1.962E+00 | 3.097E+00 | 5.167E+00 | 0.000E+00 | 0.380 |
| RU-106 | 1.342E+01 | 2.291E+01 | 3.776E+01 | 0.000E+00 | 0.356 |
| AG-110m | 8.791E-01 | 2.356E+00 | 3.933E+00 | 0.000E+00 | 0.224 |
| SN-113 | -1.368E+00 | 3.200E+00 | 5.183E+00 | 0.000E+00 | -0.264 |
| SB-124 | 4.167E+00 | 5.884E+00 | 4.707E+00 | 0.000E+00 | 0.885 |
| SB-125 | -5.581E+00 | 6.397E+00 | 1.009E+01 | 0.000E+00 | -0.553 |
| TE-129M | -1.715E+01 | 3.692E+01 | 5.908E+01 | 0.000E+00 | -0.290 |
| I-131 | -2.833E+00 | 9.807E+00 | 1.604E+01 | 0.000E+00 | -0.177 |
| BA-133 | 5.628E+00 | 3.295E+00 | 5.755E+00 | 0.000E+00 | 0.978 |
| CS-134 | 5.253E+00 | 4.105E+00 | 4.794E+00 | 0.000E+00 | 1.096 |
| CS-136 | -3.597E+00 | 5.115E+00 | 8.114E+00 | 0.000E+00 | -0.443 |
| CS-137 | 8.960E-03 | 2.572E+00 | 4.214E+00 | 0.000E+00 | 0.002 |
| CE-139 | -1.005E+00 | 2.368E+00 | 3.909E+00 | 0.000E+00 | -0.257 |
| BA-140 | 2.674E+00 | 1.964E+01 | 3.279E+01 | 0.000E+00 | 0.082 |
| LA-140 | 2.504E-01 | 6.290E+00 | 1.037E+01 | 0.000E+00 | 0.024 |
| CE-141 | -1.418E+00 | 6.416E+00 | 8.773E+00 | 0.000E+00 | -0.162 |
| CE-144 | 2.344E+00 | 2.147E+01 | 2.986E+01 | 0.000E+00 | 0.078 |
| EU-152 | -2.413E+01 | 7.544E+00 | 1.117E+01 | 0.000E+00 | -2.160 |
| EU-154 | -1.485E+00 | 4.731E+00 | 7.668E+00 | 0.000E+00 | -0.194 |
| RA-226 | -5.638E+01 | 5.868E+01 | 9.401E+01 | 0.000E+00 | -0.600 |
| AC-228 | -2.111E+00 | 9.447E+00 | 1.482E+01 | 0.000E+00 | -0.142 |
| TH-228 | 2.412E+00 | 4.687E+00 | 7.713E+00 | 0.000E+00 | 0.313 |
| TH-232 | -2.099E+00 | 9.393E+00 | 1.474E+01 | 0.000E+00 | -0.142 |
| U-235 | 2.494E+00 | 2.075E+01 | 2.876E+01 | 0.000E+00 | 0.087 |
| U-238 | 1.173E+02 | 2.513E+02 | 4.219E+02 | 0.000E+00 | 0.278 |
| AM-241 | -6.681E+00 | 2.414E+01 | 3.430E+01 | 0.000E+00 | -0.195 |

```

A,07L28845-7      ,06/12/2006 22:56,05/26/2006 17:00,    3.058E+00,WG L28845-7 DR
B,07L28845-7      ,LIBD      ,06/07/2006 09:32,073L082504
C,K-40      ,YES,    4.357E+01,    3.464E+01,    3.911E+01,,    1.114
C,BE-7      ,NO ,    4.800E+00,    2.367E+01,    3.888E+01,,    0.123
C,CR-51     ,NO ,   -4.381E+01,    2.824E+01,    4.456E+01,,   -0.983
C,MN-54     ,NO ,    1.030E+00,    2.284E+00,    3.866E+00,,    0.266
C,CO-57     ,NO ,   -1.283E+00,    2.344E+00,    3.778E+00,,   -0.340
C,CO-58     ,NO ,   -1.429E+00,    2.494E+00,    3.995E+00,,   -0.358
C,FE-59     ,NO ,    2.398E+00,    5.262E+00,    8.966E+00,,    0.267
C,CO-60     ,NO ,    7.635E-01,    2.280E+00,    3.820E+00,,    0.200
C,ZN-65     ,NO ,    1.449E+01,    5.909E+00,    9.953E+00,,    1.455
C,SE-75     ,NO ,    1.148E+00,    3.337E+00,    5.507E+00,,    0.209
C,SR-85     ,NO ,    2.677E+01,    3.366E+00,    6.803E+00,,    3.936
C,Y-88      ,NO ,    1.166E+00,    2.757E+00,    4.727E+00,,    0.247
C,NB-94     ,NO ,    6.003E-01,    2.283E+00,    3.774E+00,,    0.159
C,NB-95     ,NO ,    5.396E-01,    2.686E+00,    4.508E+00,,    0.120
C,ZR-95     ,NO ,    6.590E-01,    4.899E+00,    8.013E+00,,    0.082
C,MO-99     ,NO ,    1.288E+01,    1.314E+03,    2.138E+03,,    0.006
C,RU-103    ,NO ,    1.962E+00,    3.097E+00,    5.167E+00,,    0.380
C,RU-106    ,NO ,    1.342E+01,    2.291E+01,    3.776E+01,,    0.356
C,AG-110m   ,NO ,    8.791E-01,    2.356E+00,    3.933E+00,,    0.224
C,SN-113    ,NO ,   -1.368E+00,    3.200E+00,    5.183E+00,,   -0.264
C,SB-124    ,NO ,    4.167E+00,    5.884E+00,    4.707E+00,,    0.885
C,SB-125    ,NO ,   -5.581E+00,    6.397E+00,    1.009E+01,,   -0.553
C,TE-129M   ,NO ,   -1.715E+01,    3.692E+01,    5.908E+01,,   -0.290
C,I-131     ,NO ,   -2.833E+00,    9.807E+00,    1.604E+01,,   -0.177
C,BA-133    ,NO ,    5.628E+00,    3.295E+00,    5.755E+00,,    0.978
C,CS-134    ,NO ,    5.253E+00,    4.105E+00,    4.794E+00,,    1.096
C,CS-136    ,NO ,   -3.597E+00,    5.115E+00,    8.114E+00,,   -0.443
C,CS-137    ,NO ,    8.960E-03,    2.572E+00,    4.214E+00,,    0.002
C,CE-139    ,NO ,   -1.005E+00,    2.368E+00,    3.909E+00,,   -0.257
C,BA-140    ,NO ,    2.674E+00,    1.964E+01,    3.279E+01,,    0.082
C,LA-140    ,NO ,    2.504E-01,    6.290E+00,    1.037E+01,,    0.024
C,CE-141    ,NO ,   -1.418E+00,    6.416E+00,    8.773E+00,,   -0.162
C,CE-144    ,NO ,    2.344E+00,    2.147E+01,    2.986E+01,,    0.078
C,EU-152    ,NO ,   -2.413E+01,    7.544E+00,    1.117E+01,,   -2.160
C,EU-154    ,NO ,   -1.485E+00,    4.731E+00,    7.668E+00,,   -0.194
C,RA-226    ,NO ,   -5.638E+01,    5.868E+01,    9.401E+01,,   -0.600
C,AC-228    ,NO ,   -2.111E+00,    9.447E+00,    1.482E+01,,   -0.142
C,TH-228    ,NO ,    2.412E+00,    4.687E+00,    7.713E+00,,    0.313
C,TH-232    ,NO ,   -2.099E+00,    9.393E+00,    1.474E+01,,   -0.142
C,U-235     ,NO ,    2.494E+00,    2.075E+01,    2.876E+01,,    0.087
C,U-238     ,NO ,    1.173E+02,    2.513E+02,    4.219E+02,,    0.278
C,AM-241    ,NO ,   -6.681E+00,    2.414E+01,    3.430E+01,,   -0.195

```

Sec. Review: Analyst: LIMS: 

=====

VAX/VMS Teledyne Brown Eng. Laboratory Gamma Report: 12-JUN-2006 22:59:13.25

TBE10 12892256 HpGe ***** Aquisition Date/Time: 12-JUN-2006 16:59:04.41

LIMS No., Customer Name, Client ID: WG L28845-8 DRESDEN

| | | | |
|---------------|-----------------|---------------|-----------------------|
| Sample ID | : 10L28845-8 | Smple Date: | 26-MAY-2006 10:10:00. |
| Sample Type | : WG | Geometry | : 103L083004 |
| Quantity | : 3.12770E+00 L | BKGFILE | : 10BG060306MT |
| Start Channel | : 80 | Energy Tol | : 1.00000 |
| End Channel | : 4090 | Pk Srch Sens: | 5.00000 |
| MDA Constant | : 0.00 | Library Used: | LIBD |
| | | Real Time | : 0 06:00:03.51 |
| | | Live time | : 0 06:00:00.00 |

| Pk | It | Energy | Area | Bkgnd | FWHM | Channel | %Eff | Cts/Sec | %Err | Fit |
|----|----|----------|------|-------|------|---------|----------|----------|-------|----------|
| 1 | 1 | 66.25* | 184 | 680 | 1.56 | 131.61 | 7.25E-01 | 8.53E-03 | 27.8 | 1.70E+00 |
| 2 | 1 | 139.84 | 115 | 568 | 1.28 | 278.86 | 1.91E+00 | 5.32E-03 | 37.2 | 9.41E-01 |
| 3 | 1 | 185.98* | 28 | 504 | 1.23 | 371.19 | 1.77E+00 | 1.28E-03 | 172.0 | 1.43E+00 |
| 4 | 1 | 198.27* | 58 | 643 | 1.74 | 395.77 | 1.72E+00 | 2.69E-03 | 95.0 | 1.89E+00 |
| 5 | 1 | 583.51* | 7 | 131 | 1.57 | 1166.67 | 7.98E-01 | 3.15E-04 | 376.9 | 8.96E-01 |
| 6 | 1 | 595.96 | 104 | 78 | 1.61 | 1191.60 | 7.86E-01 | 4.81E-03 | 17.6 | 1.07E+00 |
| 7 | 1 | 609.48* | 58 | 120 | 2.47 | 1218.65 | 7.72E-01 | 2.68E-03 | 46.7 | 1.63E+00 |
| 8 | 1 | 1461.45* | 1 | 32 | 2.00 | 2924.05 | 3.88E-01 | 4.79E-05 | ***** | 1.04E+00 |

Flag: "*" = Peak area was modified by background subtraction

Nuclide Line Activity Report

Nuclide Type: natural

| Nuclide | Energy | Area | %Abn | %Eff | Uncorrected pCi/L | Decay Corr pCi/L | 2-Sigma %Error |
|---------|---------|-------|--------|-----------|----------------------|---------------------|-------------------|
| K-40 | 1460.81 | 1 | 10.67* | 3.885E-01 | 9.989E-01 | 9.989E-01 | 3775.77 |
| RA-226 | 186.21 | 28 | 3.28* | 1.770E+00 | 1.911E+01 | 1.911E+01 | 343.96 |
| U-235 | 143.76 | ----- | 10.50* | 1.905E+00 | ----- | Line Not Found | ----- |
| | 163.35 | ----- | 4.70 | 1.860E+00 | ----- | Line Not Found | ----- |
| | 185.71 | 28 | 54.00 | 1.770E+00 | 1.161E+00 | 1.161E+00 | 343.96 |
| | 205.31 | ----- | 4.70 | 1.684E+00 | ----- | Line Not Found | ----- |

Flag: "*" = Keyline

Summary of Nuclide Activity

Page : 2

Sample ID : 10L28845-8

Acquisition date : 12-JUN-2006 16:59:04

| | | |
|---|---|--------|
| Total number of lines in spectrum | 8 | |
| Number of unidentified lines | 5 | |
| Number of lines tentatively identified by NID | 3 | 37.50% |

Nuclide Type : natural

| Nuclide | Hlife | Decay | Uncorrected pCi/L | Decay Corr pCi/L | Decay Corr 2-Sigma Error | 2-Sigma %Error | Flags |
|------------------|-----------|-------|----------------------|---------------------|-----------------------------|-------------------|-------|
| K-40 | 1.28E+09Y | 1.00 | 9.989E-01 | 9.989E-01 | 377.2E-01 | 3775.77 | |
| RA-226 | 1600.00Y | 1.00 | 1.911E+01 | 1.911E+01 | 6.574E+01 | 343.96 | |
| U-235 | 7.04E+08Y | 1.00 | 1.161E+00 | 1.161E+00 | 3.993E+00 | 343.96 | K |
| Total Activity : | | | 2.127E+01 | 2.127E+01 | | | |

Grand Total Activity : 2.127E+01 2.127E+01

Flags: "K" = Keyline not found
 "E" = Manually edited

"M" = Manually accepted
 "A" = Nuclide specific abn. limit

Unidentified Energy Lines

Page : 3

Sample ID : 10L28845-8

Acquisition date : 12-JUN-2006 16:59:04

| It | Energy | Area | Bkgnd | FWHM | Channel | Left | Pw | Cts/Sec | %Err | %Eff | Flags |
|----|--------|------|-------|------|---------|------|----|----------|------|----------|-------|
| 1 | 66.25 | 184 | 680 | 1.56 | 131.61 | 128 | 9 | 8.53E-03 | 55.6 | 7.25E-01 | |
| 1 | 139.84 | 115 | 568 | 1.28 | 278.86 | 275 | 8 | 5.32E-03 | 74.4 | 1.91E+00 | |
| 1 | 198.27 | 58 | 643 | 1.74 | 395.77 | 389 | 12 | 2.69E-03 | **** | 1.72E+00 | |
| 1 | 583.51 | 7 | 131 | 1.57 | 1166.67 | 1162 | 11 | 3.15E-04 | **** | 7.98E-01 | T |
| 1 | 595.96 | 104 | 78 | 1.61 | 1191.60 | 1188 | 8 | 4.81E-03 | 35.2 | 7.86E-01 | |
| 1 | 609.48 | 58 | 120 | 2.47 | 1218.65 | 1213 | 12 | 2.68E-03 | 93.4 | 7.72E-01 | |

Flags: "T" = Tentatively associated

Summary of Nuclide Activity

Total number of lines in spectrum 8
 Number of unidentified lines 5
 Number of lines tentatively identified by NID 3 37.50%

Nuclide Type : natural

| Nuclide | Hlife | Decay | Wtd Mean | Wtd Mean | Decay Corr | 2-Sigma | Flags |
|------------------|-----------|-------|-------------|------------|---------------|---------|-------|
| | | | Uncorrected | Decay Corr | | | |
| | | | pCi/L | pCi/L | 2-Sigma Error | %Error | |
| K-40 | 1.28E+09Y | 1.00 | 9.989E-01 | 9.989E-01 | 377.2E-01 | 3775.77 | |
| RA-226 | 1600.00Y | 1.00 | 1.911E+01 | 1.911E+01 | 6.574E+01 | 343.96 | |
| Total Activity : | | | 2.011E+01 | 2.011E+01 | | | |

Grand Total Activity : 2.011E+01 2.011E+01

Flags: "K" = Keyline not found
 "E" = Manually edited

"M" = Manually accepted
 "A" = Nuclide specific abn. limit

Interference Report

No interference correction performed

Combined Activity-MDA Report

---- Identified Nuclides ----

| Nuclide | Activity (pCi/L) | Act error | MDA (pCi/L) | MDA error | Act/MDA |
|---------|---------------------|-----------|----------------|-----------|---------|
| K-40 | 9.989E-01 | 3.772E+01 | 3.415E+01 | 0.000E+00 | 0.029 |
| RA-226 | 1.911E+01 | 6.574E+01 | 9.702E+01 | 0.000E+00 | 0.197 |

---- Non-Identified Nuclides ----

| Nuclide | Key-Line | K.L. | Act error | MDA | MDA error | Act/MDA |
|---------|---------------------|------|-----------|---------------------|-----------|---------|
| | Activity (pCi/L) | | | | | |
| BE-7 | 2.398E-01 | | 2.538E+01 | 4.212E+01 | 0.000E+00 | 0.006 |
| NA-24 | 1.089E+02 | | 3.346E+02 | Half-Life too short | | |
| CR-51 | -1.404E+01 | | 3.324E+01 | 5.399E+01 | 0.000E+00 | -0.260 |

| | | | | | |
|---------|------------|-----------|-----------|-----------|--------|
| MN-54 | -8.174E-02 | 2.450E+00 | 4.035E+00 | 0.000E+00 | -0.020 |
| CO-57 | -6.312E-01 | 2.520E+00 | 4.147E+00 | 0.000E+00 | -0.152 |
| CO-58 | 4.773E-02 | 2.808E+00 | 4.645E+00 | 0.000E+00 | 0.010 |
| FE-59 | 3.914E+00 | 5.864E+00 | 1.013E+01 | 0.000E+00 | 0.386 |
| CO-60 | 1.459E+00 | 2.616E+00 | 4.464E+00 | 0.000E+00 | 0.327 |
| ZN-65 | 3.325E+00 | 5.463E+00 | 9.388E+00 | 0.000E+00 | 0.354 |
| SE-75 | -3.284E+00 | 3.654E+00 | 5.908E+00 | 0.000E+00 | -0.556 |
| SR-85 | 2.063E+01 | 3.380E+00 | 6.587E+00 | 0.000E+00 | 3.131 |
| Y-88 | -1.222E-01 | 3.066E+00 | 5.003E+00 | 0.000E+00 | -0.024 |
| NB-94 | -1.449E+00 | 2.521E+00 | 3.987E+00 | 0.000E+00 | -0.363 |
| NB-95 | -1.913E+00 | 2.925E+00 | 4.691E+00 | 0.000E+00 | -0.408 |
| ZR-95 | -1.514E+00 | 5.266E+00 | 8.613E+00 | 0.000E+00 | -0.176 |
| MO-99 | -5.000E+02 | 1.500E+03 | 2.451E+03 | 0.000E+00 | -0.204 |
| RU-103 | 3.890E+00 | 3.302E+00 | 5.718E+00 | 0.000E+00 | 0.680 |
| RU-106 | 8.957E+00 | 2.462E+01 | 3.994E+01 | 0.000E+00 | 0.224 |
| AG-110m | -6.976E-01 | 2.398E+00 | 3.854E+00 | 0.000E+00 | -0.181 |
| SN-113 | 4.162E-01 | 3.536E+00 | 5.792E+00 | 0.000E+00 | 0.072 |
| SB-124 | 5.759E+00 | 5.888E+00 | 4.915E+00 | 0.000E+00 | 1.172 |
| SB-125 | 5.751E+00 | 7.189E+00 | 1.204E+01 | 0.000E+00 | 0.478 |
| TE-129M | 3.720E+01 | 4.081E+01 | 7.004E+01 | 0.000E+00 | 0.531 |
| I-131 | -1.594E+00 | 1.143E+01 | 1.860E+01 | 0.000E+00 | -0.086 |
| BA-133 | 1.968E+00 | 3.608E+00 | 6.014E+00 | 0.000E+00 | 0.327 |
| CS-134 | 5.033E+00 | 4.154E+00 | 4.503E+00 | 0.000E+00 | 1.118 |
| CS-136 | -3.814E+00 | 5.794E+00 | 9.218E+00 | 0.000E+00 | -0.414 |
| CS-137 | -2.530E+00 | 2.616E+00 | 4.052E+00 | 0.000E+00 | -0.624 |
| CE-139 | 6.109E-02 | 2.675E+00 | 4.384E+00 | 0.000E+00 | 0.014 |
| BA-140 | -9.575E+00 | 2.233E+01 | 3.615E+01 | 0.000E+00 | -0.265 |
| LA-140 | 8.747E-01 | 7.247E+00 | 1.210E+01 | 0.000E+00 | 0.072 |
| CE-141 | 2.174E+00 | 6.946E+00 | 9.795E+00 | 0.000E+00 | 0.222 |
| CE-144 | -2.395E+00 | 2.309E+01 | 3.225E+01 | 0.000E+00 | -0.074 |
| EU-152 | -6.877E+00 | 8.065E+00 | 1.287E+01 | 0.000E+00 | -0.535 |
| EU-154 | -1.952E+00 | 5.143E+00 | 8.438E+00 | 0.000E+00 | -0.231 |
| AC-228 | -1.138E+00 | 9.876E+00 | 1.516E+01 | 0.000E+00 | -0.075 |
| TH-228 | 1.801E+00 | 5.191E+00 | 8.323E+00 | 0.000E+00 | 0.216 |
| TH-232 | -1.132E+00 | 9.819E+00 | 1.508E+01 | 0.000E+00 | -0.075 |
| U-235 | 3.159E+01 | 2.225E+01 | 3.246E+01 | 0.000E+00 | 0.973 |
| U-238 | 1.793E+02 | 2.562E+02 | 4.374E+02 | 0.000E+00 | 0.410 |
| AM-241 | -2.655E+01 | 2.431E+01 | 3.381E+01 | 0.000E+00 | -0.785 |

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A,10L28845-8      ,06/12/2006 22:59,05/26/2006 10:10,    3.128E+00,WG L28845-8 DR
B,10L28845-8      ,LIBD      ,06/07/2006 09:32,103L083004
C,K-40      ,YES,    9.989E-01,    3.772E+01,    3.415E+01,,    0.029
C,RA-226    ,YES,    1.911E+01,    6.574E+01,    9.702E+01,,    0.197
C,BE-7      ,NO ,    2.398E-01,    2.538E+01,    4.212E+01,,    0.006
C,CR-51     ,NO ,   -1.404E+01,    3.324E+01,    5.399E+01,,   -0.260
C,MN-54     ,NO ,   -8.174E-02,    2.450E+00,    4.035E+00,,   -0.020
C,CO-57     ,NO ,   -6.312E-01,    2.520E+00,    4.147E+00,,   -0.152
C,CO-58     ,NO ,    4.773E-02,    2.808E+00,    4.645E+00,,    0.010
C,FE-59     ,NO ,    3.914E+00,    5.864E+00,    1.013E+01,,    0.386
C,CO-60     ,NO ,    1.459E+00,    2.616E+00,    4.464E+00,,    0.327
C,ZN-65     ,NO ,    3.325E+00,    5.463E+00,    9.388E+00,,    0.354
C,SE-75     ,NO ,   -3.284E+00,    3.654E+00,    5.908E+00,,   -0.556
C,SR-85     ,NO ,    2.063E+01,    3.380E+00,    6.587E+00,,    3.131
C,Y-88      ,NO ,   -1.222E-01,    3.066E+00,    5.003E+00,,   -0.024
C,NB-94     ,NO ,   -1.449E+00,    2.521E+00,    3.987E+00,,   -0.363
C,NB-95     ,NO ,   -1.913E+00,    2.925E+00,    4.691E+00,,   -0.408
C,ZR-95     ,NO ,   -1.514E+00,    5.266E+00,    8.613E+00,,   -0.176
C,MO-99     ,NO ,   -5.000E+02,    1.500E+03,    2.451E+03,,   -0.204
C,RU-103    ,NO ,    3.890E+00,    3.302E+00,    5.718E+00,,    0.680
C,RU-106    ,NO ,    8.957E+00,    2.462E+01,    3.994E+01,,    0.224
C,AG-110m   ,NO ,   -6.976E-01,    2.398E+00,    3.854E+00,,   -0.181
C,SN-113    ,NO ,    4.162E-01,    3.536E+00,    5.792E+00,,    0.072
C,SB-124    ,NO ,    5.759E+00,    5.888E+00,    4.915E+00,,    1.172
C,SB-125    ,NO ,    5.751E+00,    7.189E+00,    1.204E+01,,    0.478
C,TE-129M   ,NO ,    3.720E+01,    4.081E+01,    7.004E+01,,    0.531
C,I-131     ,NO ,   -1.594E+00,    1.143E+01,    1.860E+01,,   -0.086
C,BA-133    ,NO ,    1.968E+00,    3.608E+00,    6.014E+00,,    0.327
C,CS-134    ,NO ,    5.033E+00,    4.154E+00,    4.503E+00,,    1.118
C,CS-136    ,NO ,   -3.814E+00,    5.794E+00,    9.218E+00,,   -0.414
C,CS-137    ,NO ,   -2.530E+00,    2.616E+00,    4.052E+00,,   -0.624
C,CE-139    ,NO ,    6.109E-02,    2.675E+00,    4.384E+00,,    0.014
C,BA-140    ,NO ,   -9.575E+00,    2.233E+01,    3.615E+01,,   -0.265
C,LA-140    ,NO ,    8.747E-01,    7.247E+00,    1.210E+01,,    0.072
C,CE-141    ,NO ,    2.174E+00,    6.946E+00,    9.795E+00,,    0.222
C,CE-144    ,NO ,   -2.395E+00,    2.309E+01,    3.225E+01,,   -0.074
C,EU-152    ,NO ,   -6.877E+00,    8.065E+00,    1.287E+01,,   -0.535
C,EU-154    ,NO ,   -1.952E+00,    5.143E+00,    8.438E+00,,   -0.231
C,AC-228    ,NO ,   -1.138E+00,    9.876E+00,    1.516E+01,,   -0.075
C,TH-228    ,NO ,    1.801E+00,    5.191E+00,    8.323E+00,,    0.216
C,TH-232    ,NO ,   -1.132E+00,    9.819E+00,    1.508E+01,,   -0.075
C,U-235     ,NO ,    3.159E+01,    2.225E+01,    3.246E+01,,    0.973
C,U-238     ,NO ,    1.793E+02,    2.562E+02,    4.374E+02,,    0.410
C,AM-241    ,NO ,   -2.655E+01,    2.431E+01,    3.381E+01,,   -0.785

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Sec. Review: Analyst: LIMS: ✓

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VAX/VMS Teledyne Brown Eng. Laboratory Gamma Report: 12-JUN-2006 22:59:30.51

TBE11 P-20610B HpGe ***** Aquisition Date/Time: 12-JUN-2006 16:59:09.36

LIMS No., Customer Name, Client ID: WG L28845-9 DRESDEN

| | | | |
|---------------|-----------------|---------------|-----------------------|
| Sample ID | : 11L28845-9 | Smple Date: | 26-MAY-2006 10:20:00. |
| Sample Type | : WG | Geometry | : 113L082304 |
| Quantity | : 3.06400E+00 L | BKGFILE | : 11BG060306MT |
| Start Channel | : 40 | Energy Tol | : 1.00000 |
| End Channel | : 4090 | Pk Srch Sens: | 5.00000 |
| MDA Constant | : 0.00 | Library Used: | LIBD |
| | | Real Time | : 0 06:00:07.51 |
| | | Live time | : 0 06:00:00.00 |

| Pk | It | Energy | Area | Bkgnd | FWHM | Channel | %Eff | Cts/Sec | %Err | Fit |
|----|----|----------|------|-------|------|---------|----------|----------|-------|-----|
| 1 | 0 | 140.02* | 117 | 596 | 1.46 | 279.48 | 1.90E+00 | 5.41E-03 | 43.2 | |
| 2 | 0 | 162.46 | 71 | 476 | 1.44 | 324.47 | 1.88E+00 | 3.27E-03 | 55.1 | |
| 3 | 0 | 198.28 | 163 | 506 | 1.11 | 396.30 | 1.75E+00 | 7.55E-03 | 26.9 | |
| 4 | 0 | 238.57* | 29 | 462 | 1.31 | 477.09 | 1.58E+00 | 1.36E-03 | 164.0 | |
| 5 | 0 | 351.85* | 60 | 264 | 1.34 | 704.15 | 1.20E+00 | 2.79E-03 | 61.3 | |
| 6 | 0 | 595.85 | 91 | 156 | 0.94 | 1192.92 | 8.04E-01 | 4.23E-03 | 29.3 | |
| 7 | 0 | 1460.62* | 77 | 51 | 2.46 | 2921.75 | 3.92E-01 | 3.55E-03 | 32.5 | |
| 8 | 0 | 1764.86 | 22 | 55 | 1.00 | 3528.69 | 3.39E-01 | 1.03E-03 | 87.5 | |

Flag: "*" = Peak area was modified by background subtraction

Nuclide Line Activity Report

Nuclide Type: natural

| Nuclide | Energy | Area | %Abn | %Eff | Uncorrected pCi/L | Decay Corr pCi/L | 2-Sigma %Error |
|---------|---------|-------|--------|-----------|----------------------|---------------------|-------------------|
| K-40 | 1460.81 | 77 | 10.67* | 3.919E-01 | 7.495E+01 | 7.495E+01 | 64.95 |
| TH-228 | 238.63 | 29 | 44.60* | 1.577E+00 | 1.701E+00 | 1.731E+00 | 327.97 |
| | 240.98 | ----- | 3.95 | 1.567E+00 | ----- | Line Not Found | ----- |

Flag: "*" = Keyline

Summary of Nuclide Activity
 Sample ID : 11L28845-9

Page : 2
 Acquisition date : 12-JUN-2006 16:59:09

| | | |
|---|---|--------|
| Total number of lines in spectrum | 8 | |
| Number of unidentified lines | 5 | |
| Number of lines tentatively identified by NID | 3 | 37.50% |

Nuclide Type : natural

| Nuclide | Hlife | Decay | Uncorrected pCi/L | Decay Corr pCi/L | Decay Corr 2-Sigma Error | 2-Sigma %Error | Flags |
|------------------|-----------|-------|----------------------|---------------------|-----------------------------|-------------------|-------|
| K-40 | 1.28E+09Y | 1.00 | 7.495E+01 | 7.495E+01 | 4.868E+01 | 64.95 | |
| TH-228 | 1.91Y | 1.02 | 1.701E+00 | 1.731E+00 | 5.676E+00 | 327.97 | |
| Total Activity : | | | 7.665E+01 | 7.668E+01 | | | |

Grand Total Activity : 7.665E+01 7.668E+01

Flags: "K" = Keyline not found
 "E" = Manually edited

"M" = Manually accepted
 "A" = Nuclide specific abn. limit

Unidentified Energy Lines

Page : 3

Sample ID : 11L28845-9

Acquisition date : 12-JUN-2006 16:59:09

| It | Energy | Area | Bkgnd | FWHM | Channel | Left | Pw | Cts/Sec | %Err | %Eff | Flags |
|----|---------|------|-------|------|---------|------|----|----------|------|----------|-------|
| 0 | 140.02 | 117 | 596 | 1.46 | 279.48 | 274 | 10 | 5.41E-03 | 86.4 | 1.90E+00 | |
| 0 | 162.46 | 71 | 476 | 1.44 | 324.47 | 319 | 8 | 3.27E-03 | **** | 1.88E+00 | T |
| 0 | 198.28 | 163 | 506 | 1.11 | 396.30 | 392 | 10 | 7.55E-03 | 53.8 | 1.75E+00 | |
| 0 | 351.85 | 60 | 264 | 1.34 | 704.15 | 699 | 11 | 2.79E-03 | **** | 1.20E+00 | |
| 0 | 595.85 | 91 | 156 | 0.94 | 1192.92 | 1187 | 12 | 4.23E-03 | 58.5 | 8.04E-01 | |
| 0 | 1764.86 | 22 | 55 | 1.00 | 3528.69 | 3513 | 21 | 1.03E-03 | **** | 3.39E-01 | |

Flags: "T" = Tentatively associated

Summary of Nuclide Activity

Total number of lines in spectrum 8
 Number of unidentified lines 5
 Number of lines tentatively identified by NID 3 37.50%

Nuclide Type : natural

| Nuclide | Hlife | Decay | Wtd Mean | Wtd Mean | Decay Corr | | 2-Sigma | Flags |
|------------------|-----------|-------|-------------|------------|------------|-------|---------|-------|
| | | | Uncorrected | Decay Corr | 2-Sigma | Error | | |
| | | | pCi/L | pCi/L | | | %Error | |
| K-40 | 1.28E+09Y | 1.00 | 7.495E+01 | 7.495E+01 | 4.868E+01 | | 64.95 | |
| TH-228 | 1.91Y | 1.02 | 1.701E+00 | 1.731E+00 | 5.676E+00 | | 327.97 | |
| Total Activity : | | | 7.665E+01 | 7.668E+01 | | | | |

Grand Total Activity : 7.665E+01 7.668E+01

Flags: "K" = Keyline not found

"M" = Manually accepted

"E" = Manually edited

"A" = Nuclide specific abn. limit

Interference Report

No interference correction performed

Combined Activity-MDA Report

---- Identified Nuclides ----

| Nuclide | Activity (pCi/L) | Act error | MDA (pCi/L) | MDA error | Act/MDA |
|---------|---------------------|-----------|----------------|-----------|---------|
| K-40 | 7.495E+01 | 4.868E+01 | 3.938E+01 | 0.000E+00 | 1.903 |
| TH-228 | 1.731E+00 | 5.676E+00 | 7.138E+00 | 0.000E+00 | 0.242 |

---- Non-Identified Nuclides ----

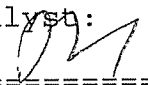

| Nuclide | Key-Line | K.L. Ided | Act error | MDA (pCi/L) | MDA error | Act/MDA |
|---------|---------------------|--------------|-----------|---------------------|-----------|---------|
| | Activity (pCi/L) | | | | | |
| BE-7 | 9.150E-02 | | 2.589E+01 | 4.226E+01 | 0.000E+00 | 0.002 |
| NA-24 | -3.578E+02 | | 3.235E+02 | Half-Life too short | | |
| CR-51 | -4.667E+01 | | 3.235E+01 | 5.115E+01 | 0.000E+00 | -0.912 |

| | | | | | |
|---------|------------|-----------|-----------|-----------|--------|
| MN-54 | -7.120E-01 | 2.555E+00 | 4.120E+00 | 0.000E+00 | -0.173 |
| CO-57 | 1.594E-01 | 2.473E+00 | 4.083E+00 | 0.000E+00 | 0.039 |
| CO-58 | -1.942E-01 | 2.817E+00 | 4.602E+00 | 0.000E+00 | -0.042 |
| FE-59 | -1.436E+00 | 6.062E+00 | 9.888E+00 | 0.000E+00 | -0.145 |
| CO-60 | 5.949E-01 | 2.483E+00 | 4.148E+00 | 0.000E+00 | 0.143 |
| ZN-65 | 1.478E+00 | 5.474E+00 | 9.205E+00 | 0.000E+00 | 0.161 |
| SE-75 | -1.456E+00 | 3.630E+00 | 5.975E+00 | 0.000E+00 | -0.244 |
| SR-85 | 1.489E+01 | 3.377E+00 | 6.263E+00 | 0.000E+00 | 2.378 |
| Y-88 | 6.721E-01 | 3.110E+00 | 5.220E+00 | 0.000E+00 | 0.129 |
| NB-94 | -5.489E-01 | 2.395E+00 | 3.908E+00 | 0.000E+00 | -0.140 |
| NB-95 | 6.298E-01 | 2.928E+00 | 4.866E+00 | 0.000E+00 | 0.129 |
| ZR-95 | 3.052E+00 | 5.007E+00 | 8.498E+00 | 0.000E+00 | 0.359 |
| MO-99 | 1.993E+02 | 1.432E+03 | 2.375E+03 | 0.000E+00 | 0.084 |
| RU-103 | 2.696E+00 | 3.477E+00 | 5.838E+00 | 0.000E+00 | 0.462 |
| RU-106 | -1.347E+01 | 2.306E+01 | 3.719E+01 | 0.000E+00 | -0.362 |
| AG-110m | -1.755E+00 | 2.455E+00 | 3.919E+00 | 0.000E+00 | -0.448 |
| SN-113 | -9.141E-01 | 3.489E+00 | 5.679E+00 | 0.000E+00 | -0.161 |
| SB-124 | -1.209E+01 | 4.023E+00 | 4.604E+00 | 0.000E+00 | -2.626 |
| SB-125 | -2.024E+00 | 7.059E+00 | 1.144E+01 | 0.000E+00 | -0.177 |
| TE-129M | 3.809E+00 | 3.821E+01 | 6.270E+01 | 0.000E+00 | 0.061 |
| I-131 | -7.581E+00 | 1.093E+01 | 1.756E+01 | 0.000E+00 | -0.432 |
| BA-133 | 6.781E+00 | 4.002E+00 | 6.044E+00 | 0.000E+00 | 1.122 |
| CS-134 | -7.060E-01 | 3.012E+00 | 4.282E+00 | 0.000E+00 | -0.165 |
| CS-136 | -3.377E+00 | 6.015E+00 | 9.549E+00 | 0.000E+00 | -0.354 |
| CS-137 | 2.232E+00 | 2.603E+00 | 4.481E+00 | 0.000E+00 | 0.498 |
| CE-139 | 1.527E+00 | 3.079E+00 | 4.345E+00 | 0.000E+00 | 0.351 |
| BA-140 | 5.922E+00 | 2.155E+01 | 3.545E+01 | 0.000E+00 | 0.167 |
| LA-140 | 3.950E+00 | 7.152E+00 | 1.239E+01 | 0.000E+00 | 0.319 |
| CE-141 | 3.199E+00 | 6.886E+00 | 9.738E+00 | 0.000E+00 | 0.329 |
| CE-144 | -5.584E+00 | 2.284E+01 | 3.164E+01 | 0.000E+00 | -0.176 |
| EU-152 | -8.320E+00 | 9.263E+00 | 1.236E+01 | 0.000E+00 | -0.673 |
| EU-154 | 2.128E+00 | 4.970E+00 | 8.269E+00 | 0.000E+00 | 0.257 |
| RA-226 | -5.827E+01 | 6.599E+01 | 9.922E+01 | 0.000E+00 | -0.587 |
| AC-228 | -8.427E+00 | 1.113E+01 | 1.526E+01 | 0.000E+00 | -0.552 |
| TH-232 | -8.378E+00 | 1.107E+01 | 1.517E+01 | 0.000E+00 | -0.552 |
| U-235 | 2.171E+01 | 2.222E+01 | 3.193E+01 | 0.000E+00 | 0.680 |
| U-238 | 3.302E+01 | 2.648E+02 | 4.436E+02 | 0.000E+00 | 0.074 |
| AM-241 | -6.712E+01 | 3.291E+01 | 5.140E+01 | 0.000E+00 | -1.306 |

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A,11L28845-9      ,06/12/2006 22:59,05/26/2006 10:20,    3.064E+00,WG L28845-9 DR
B,11L28845-9      ,LIBD      ,06/07/2006 09:40,113L082304
C,K-40      ,YES,    7.495E+01,    4.868E+01,    3.938E+01,,    1.903
C,TH-228    ,YES,    1.731E+00,    5.676E+00,    7.138E+00,,    0.242
C,BE-7      ,NO ,    9.150E-02,    2.589E+01,    4.226E+01,,    0.002
C,CR-51     ,NO ,   -4.667E+01,    3.235E+01,    5.115E+01,,   -0.912
C,MN-54     ,NO ,   -7.120E-01,    2.555E+00,    4.120E+00,,   -0.173
C,CO-57     ,NO ,    1.594E-01,    2.473E+00,    4.083E+00,,    0.039
C,CO-58     ,NO ,   -1.942E-01,    2.817E+00,    4.602E+00,,   -0.042
C,FE-59     ,NO ,   -1.436E+00,    6.062E+00,    9.888E+00,,   -0.145
C,CO-60     ,NO ,    5.949E-01,    2.483E+00,    4.148E+00,,    0.143
C,ZN-65     ,NO ,    1.478E+00,    5.474E+00,    9.205E+00,,    0.161
C,SE-75     ,NO ,   -1.456E+00,    3.630E+00,    5.975E+00,,   -0.244
C,SR-85     ,NO ,    1.489E+01,    3.377E+00,    6.263E+00,,    2.378
C,Y-88      ,NO ,    6.721E-01,    3.110E+00,    5.220E+00,,    0.129
C,NB-94     ,NO ,   -5.489E-01,    2.395E+00,    3.908E+00,,   -0.140
C,NB-95     ,NO ,    6.298E-01,    2.928E+00,    4.866E+00,,    0.129
C,ZR-95     ,NO ,    3.052E+00,    5.007E+00,    8.498E+00,,    0.359
C,MO-99     ,NO ,    1.993E+02,    1.432E+03,    2.375E+03,,    0.084
C,RU-103    ,NO ,    2.696E+00,    3.477E+00,    5.838E+00,,    0.462
C,RU-106    ,NO ,   -1.347E+01,    2.306E+01,    3.719E+01,,   -0.362
C,AG-110m   ,NO ,   -1.755E+00,    2.455E+00,    3.919E+00,,   -0.448
C,SN-113    ,NO ,   -9.141E-01,    3.489E+00,    5.679E+00,,   -0.161
C,SB-124    ,NO ,   -1.209E+01,    4.023E+00,    4.604E+00,,   -2.626
C,SB-125    ,NO ,   -2.024E+00,    7.059E+00,    1.144E+01,,   -0.177
C,TE-129M   ,NO ,    3.809E+00,    3.821E+01,    6.270E+01,,    0.061
C,I-131     ,NO ,   -7.581E+00,    1.093E+01,    1.756E+01,,   -0.432
C,BA-133    ,NO ,    6.781E+00,    4.002E+00,    6.044E+00,,    1.122
C,CS-134    ,NO ,   -7.060E-01,    3.012E+00,    4.282E+00,,   -0.165
C,CS-136    ,NO ,   -3.377E+00,    6.015E+00,    9.549E+00,,   -0.354
C,CS-137    ,NO ,    2.232E+00,    2.603E+00,    4.481E+00,,    0.498
C,CE-139    ,NO ,    1.527E+00,    3.079E+00,    4.345E+00,,    0.351
C,BA-140    ,NO ,    5.922E+00,    2.155E+01,    3.545E+01,,    0.167
C,LA-140    ,NO ,    3.950E+00,    7.152E+00,    1.239E+01,,    0.319
C,CE-141    ,NO ,    3.199E+00,    6.886E+00,    9.738E+00,,    0.329
C,CE-144    ,NO ,   -5.584E+00,    2.284E+01,    3.164E+01,,   -0.176
C,EU-152    ,NO ,   -8.320E+00,    9.263E+00,    1.236E+01,,   -0.673
C,EU-154    ,NO ,    2.128E+00,    4.970E+00,    8.269E+00,,    0.257
C,RA-226    ,NO ,   -5.827E+01,    6.599E+01,    9.922E+01,,   -0.587
C,AC-228    ,NO ,   -8.427E+00,    1.113E+01,    1.526E+01,,   -0.552
C,TH-232    ,NO ,   -8.378E+00,    1.107E+01,    1.517E+01,,   -0.552
C,U-235     ,NO ,    2.171E+01,    2.222E+01,    3.193E+01,,    0.680
C,U-238     ,NO ,    3.302E+01,    2.648E+02,    4.436E+02,,    0.074
C,AM-241    ,NO ,   -6.712E+01,    3.291E+01,    5.140E+01,,   -1.306

```

Sec. Review: Analyst:  LIMS: 

=====

VAX/VMS Teledyne Brown Eng. Laboratory Gamma Report: 12-JUN-2006 15:12:36.55

TBE23 03017322 HpGe ***** Aquisition Date/Time: 12-JUN-2006 11:44:44.96

LIMS No., Customer Name, Client ID: WG L28845-10 EXELON/DRESDEN

| | | | |
|---------------|-----------------|---------------|-----------------------|
| Sample ID | : 23L28845-10 | Smple Date: | 26-MAY-2006 12:00:00. |
| Sample Type | : WG | Geometry | : 233L082404 |
| Quantity | : 2.99220E+00 L | BKGFILE | : 23BG060306MT |
| Start Channel | : 50 | Energy Tol | : 1.50000 |
| End Channel | : 4090 | Pk Srch Sens: | 5.00000 |
| MDA Constant | : 0.00 | Library Used: | LIBD |
| | | Real Time | : 0 03:27:40.16 |
| | | Live time | : 0 03:27:31.54 |

| Pk | It | Energy | Area | Bkgnd | FWHM | Channel | %Eff | Cts/Sec | %Err | Fit |
|----|----|----------|------|-------|------|---------|----------|----------|-------|----------|
| 1 | 8 | 33.82* | 59 | 29 | 1.27 | 67.96 | 8.29E-02 | 4.72E-03 | 32.6 | 2.88E+00 |
| 2 | 4 | 63.07* | 39 | 299 | 1.31 | 126.42 | 1.03E+00 | 3.13E-03 | 80.0 | 1.07E+00 |
| 3 | 4 | 66.09 | 140 | 418 | 1.77 | 132.45 | 1.15E+00 | 1.12E-02 | 28.1 | |
| 4 | 0 | 92.31* | 31 | 601 | 1.45 | 184.86 | 1.93E+00 | 2.51E-03 | 160.6 | |
| 5 | 0 | 139.74* | 89 | 489 | 1.05 | 279.66 | 2.32E+00 | 7.11E-03 | 48.3 | |
| 6 | 0 | 185.50* | 19 | 399 | 1.42 | 371.11 | 2.18E+00 | 1.49E-03 | 219.6 | |
| 7 | 0 | 238.25* | 33 | 278 | 0.97 | 476.53 | 1.90E+00 | 2.62E-03 | 100.3 | |
| 8 | 0 | 595.81 | 37 | 75 | 1.44 | 1191.31 | 9.56E-01 | 3.00E-03 | 44.7 | |
| 9 | 0 | 609.13* | 32 | 100 | 1.28 | 1217.94 | 9.40E-01 | 2.60E-03 | 75.0 | |
| 10 | 0 | 883.77 | 26 | 52 | 0.54 | 1767.09 | 7.23E-01 | 2.08E-03 | 63.9 | |
| 11 | 0 | 1460.63* | 11 | 36 | 2.05 | 2920.90 | 5.10E-01 | 8.99E-04 | 172.8 | |
| 12 | 0 | 1764.67* | 1 | 8 | 1.42 | 3529.25 | 4.38E-01 | 1.10E-04 | 628.2 | |

Flag: "*" = Peak area was modified by background subtraction

Nuclide Line Activity Report

Nuclide Type: natural

| Nuclide | Energy | Area | %Abn | %Eff | Uncorrected pCi/L | Decay Corr pCi/L | 2-Sigma %Error |
|---------|---------|-------|--------|-----------|----------------------|---------------------|-------------------|
| K-40 | 1460.81 | 11 | 10.67* | 5.096E-01 | 1.493E+01 | 1.493E+01 | 345.55 |
| RA-226 | 186.21 | 19 | 3.28* | 2.175E+00 | 1.883E+01 | 1.883E+01 | 439.11 |
| TH-228 | 238.63 | 33 | 44.60* | 1.902E+00 | 2.787E+00 | 2.834E+00 | 200.67 |
| | 240.98 | ----- | 3.95 | 1.888E+00 | ----- | Line Not Found | ----- |

Flag: "*" = Keyline

Summary of Nuclide Activity

Page : 2

Sample ID : 23L28845-10

Acquisition date : 12-JUN-2006 11:44:44

| | | |
|---|----|--------|
| Total number of lines in spectrum | 12 | |
| Number of unidentified lines | 8 | |
| Number of lines tentatively identified by NID | 4 | 33.33% |

Nuclide Type : natural

| Nuclide | Hlife | Decay | Uncorrected pCi/L | Decay Corr pCi/L | Decay Corr 2-Sigma Error | 2-Sigma %Error | Flags |
|------------------|-----------|-------|----------------------|---------------------|-----------------------------|-------------------|-------|
| K-40 | 1.28E+09Y | 1.00 | 1.493E+01 | 1.493E+01 | 5.161E+01 | 345.55 | |
| RA-226 | 1600.00Y | 1.00 | 1.883E+01 | 1.883E+01 | 8.269E+01 | 439.11 | |
| TH-228 | 1.91Y | 1.02 | 2.787E+00 | 2.834E+00 | 5.687E+00 | 200.67 | |
| | | | ----- | ----- | | | |
| Total Activity : | | | 3.655E+01 | 3.660E+01 | | | |

| | | |
|------------------------|-----------|-----------|
| Grand Total Activity : | 3.655E+01 | 3.660E+01 |
|------------------------|-----------|-----------|

Flags: "K" = Keyline not found
 "E" = Manually edited

"M" = Manually accepted
 "A" = Nuclide specific abn. limit

Unidentified Energy Lines
Sample ID : 23L28845-10

Page : 3
Acquisition date : 12-JUN-2006 11:44:44

| It | Energy | Area | Bkgnd | FWHM | Channel | Left | Pw | Cts/Sec | %Err | %Eff | Flags |
|----|---------|------|-------|------|---------|------|----|----------|------|----------|-------|
| 8 | 33.82 | 59 | 29 | 1.27 | 67.96 | 65 | 16 | 4.72E-03 | 65.1 | 8.29E-02 | |
| 4 | 63.07 | 39 | 299 | 1.31 | 126.42 | 123 | 14 | 3.13E-03 | **** | 1.03E+00 | |
| 4 | 66.09 | 140 | 418 | 1.77 | 132.45 | 123 | 14 | 1.12E-02 | 56.2 | 1.15E+00 | |
| 0 | 92.31 | 31 | 601 | 1.45 | 184.86 | 181 | 10 | 2.51E-03 | **** | 1.93E+00 | |
| 0 | 139.74 | 89 | 489 | 1.05 | 279.66 | 275 | 9 | 7.11E-03 | 96.6 | 2.32E+00 | |
| 0 | 595.81 | 37 | 75 | 1.44 | 1191.31 | 1186 | 9 | 3.00E-03 | 89.4 | 9.56E-01 | |
| 0 | 609.13 | 32 | 100 | 1.28 | 1217.94 | 1212 | 13 | 2.60E-03 | **** | 9.40E-01 | |
| 0 | 883.77 | 26 | 52 | 0.54 | 1767.09 | 1758 | 15 | 2.08E-03 | **** | 7.23E-01 | T |
| 0 | 1764.67 | 1 | 8 | 1.42 | 3529.25 | 3525 | 9 | 1.10E-04 | **** | 4.38E-01 | |

Flags: "T" = Tentatively associated

Summary of Nuclide Activity

| | |
|---|---------------|
| Total number of lines in spectrum | 12 |
| Number of unidentified lines | 8 |
| Number of lines tentatively identified by NID | 4 33.33% |

Nuclide Type : natural

| Nuclide | Hlife | Decay | Wtd Mean | Wtd Mean | Decay Corr | 2-Sigma | Error | %Error | Flags |
|------------------|-----------|-------|-------------|------------|------------|---------|-------|--------|-------|
| | | | Uncorrected | Decay Corr | | | | | |
| | | | pCi/L | pCi/L | | | | | |
| K-40 | 1.28E+09Y | 1.00 | 1.493E+01 | 1.493E+01 | 5.161E+01 | 345.55 | | | |
| RA-226 | 1600.00Y | 1.00 | 1.883E+01 | 1.883E+01 | 8.269E+01 | 439.11 | | | |
| TH-228 | 1.91Y | 1.02 | 2.787E+00 | 2.834E+00 | 5.687E+00 | 200.67 | | | |
| Total Activity : | | | 3.655E+01 | 3.660E+01 | | | | | |

Grand Total Activity : 3.655E+01 3.660E+01

Flags: "K" = Keyline not found "M" = Manually accepted
"E" = Manually edited "A" = Nuclide specific abn. limit

Interference Report

No interference correction performed

Combined Activity-MDA Report

---- Identified Nuclides ----

| Nuclide | Activity (pCi/L) | Act error | MDA (pCi/L) | MDA error | Act/MDA |
|---------|---------------------|-----------|----------------|-----------|---------|
| K-40 | 1.493E+01 | 5.161E+01 | 5.024E+01 | 0.000E+00 | 0.297 |
| RA-226 | 1.883E+01 | 8.269E+01 | 1.286E+02 | 0.000E+00 | 0.146 |
| TH-228 | 2.834E+00 | 5.687E+00 | 9.717E+00 | 0.000E+00 | 0.292 |

---- Non-Identified Nuclides ----

| | | | | | |
|----------|------|-----------|-----|-----------|---------|
| Key-Line | | | | | |
| Activity | K.L. | Act error | MDA | MDA error | Act/MDA |

| Nuclide | (pCi/L) | Ided | (pCi/L) | | |
|---------|------------|-----------|---------------------|-----------|--------|
| BE-7 | 2.233E+01 | 3.117E+01 | 5.481E+01 | 0.000E+00 | 0.407 |
| NA-24 | -3.897E+00 | 2.410E+02 | Half-Life too short | | |
| CR-51 | -2.884E+01 | 3.937E+01 | 6.545E+01 | 0.000E+00 | -0.441 |
| MN-54 | -8.305E-01 | 2.831E+00 | 4.812E+00 | 0.000E+00 | -0.173 |
| CO-57 | 1.029E+00 | 3.346E+00 | 5.667E+00 | 0.000E+00 | 0.182 |
| CO-58 | -1.084E+00 | 3.263E+00 | 5.534E+00 | 0.000E+00 | -0.196 |
| FE-59 | 4.888E+00 | 6.737E+00 | 1.250E+01 | 0.000E+00 | 0.391 |
| CO-60 | 1.610E+00 | 2.848E+00 | 5.279E+00 | 0.000E+00 | 0.305 |
| ZN-65 | 7.814E+00 | 6.481E+00 | 1.229E+01 | 0.000E+00 | 0.636 |
| SE-75 | -6.508E-01 | 4.593E+00 | 7.822E+00 | 0.000E+00 | -0.083 |
| SR-85 | 1.567E+01 | 4.032E+00 | 7.791E+00 | 0.000E+00 | 2.011 |
| Y-88 | 1.453E+00 | 3.547E+00 | 6.619E+00 | 0.000E+00 | 0.220 |
| NB-94 | 2.276E+00 | 2.851E+00 | 5.155E+00 | 0.000E+00 | 0.441 |
| NB-95 | 4.758E+00 | 3.467E+00 | 6.473E+00 | 0.000E+00 | 0.735 |
| ZR-95 | -3.549E+00 | 5.920E+00 | 9.882E+00 | 0.000E+00 | -0.359 |
| MO-99 | -7.634E+02 | 1.519E+03 | 2.556E+03 | 0.000E+00 | -0.299 |
| RU-103 | 1.081E-01 | 4.036E+00 | 6.864E+00 | 0.000E+00 | 0.016 |
| RU-106 | 1.243E+01 | 2.822E+01 | 4.966E+01 | 0.000E+00 | 0.250 |
| AG-110m | 3.028E+00 | 2.923E+00 | 5.378E+00 | 0.000E+00 | 0.563 |
| SN-113 | -6.643E-01 | 4.125E+00 | 6.990E+00 | 0.000E+00 | -0.095 |
| SB-124 | -9.000E+00 | 9.588E+00 | 5.755E+00 | 0.000E+00 | -1.564 |
| SB-125 | 2.187E+00 | 8.880E+00 | 1.528E+01 | 0.000E+00 | 0.143 |
| TE-129M | -2.932E+01 | 4.804E+01 | 7.932E+01 | 0.000E+00 | -0.370 |
| I-131 | 6.506E+00 | 1.331E+01 | 2.314E+01 | 0.000E+00 | 0.281 |
| BA-133 | 1.286E-01 | 4.368E+00 | 7.449E+00 | 0.000E+00 | 0.017 |
| CS-134 | 1.554E+00 | 5.144E+00 | 5.849E+00 | 0.000E+00 | 0.266 |
| CS-136 | 3.393E+00 | 6.511E+00 | 1.171E+01 | 0.000E+00 | 0.290 |
| CS-137 | 3.232E-02 | 3.182E+00 | 5.531E+00 | 0.000E+00 | 0.006 |
| CE-139 | 5.183E-01 | 3.552E+00 | 5.960E+00 | 0.000E+00 | 0.087 |
| BA-140 | 1.380E+00 | 2.576E+01 | 4.394E+01 | 0.000E+00 | 0.031 |
| LA-140 | 4.082E+00 | 7.842E+00 | 1.476E+01 | 0.000E+00 | 0.277 |
| CE-141 | 5.550E+00 | 9.134E+00 | 1.327E+01 | 0.000E+00 | 0.418 |
| CE-144 | -2.394E+01 | 3.132E+01 | 4.347E+01 | 0.000E+00 | -0.551 |
| EU-152 | -7.717E+00 | 1.014E+01 | 1.679E+01 | 0.000E+00 | -0.459 |
| EU-154 | 2.999E+00 | 6.769E+00 | 1.150E+01 | 0.000E+00 | 0.261 |
| AC-228 | 1.172E+01 | 1.212E+01 | 2.097E+01 | 0.000E+00 | 0.559 |
| TH-232 | 1.165E+01 | 1.206E+01 | 2.085E+01 | 0.000E+00 | 0.559 |
| U-235 | 3.879E+01 | 3.021E+01 | 4.427E+01 | 0.000E+00 | 0.876 |
| U-238 | -1.362E+02 | 3.269E+02 | 5.377E+02 | 0.000E+00 | -0.253 |
| AM-241 | 1.230E+01 | 2.051E+01 | 2.949E+01 | 0.000E+00 | 0.417 |

| | | | | | |
|---------------|-------------|------------------|-------------|------------------|-------------|
| A,23L28845-10 | ,06/12/2006 | 15:12,05/26/2006 | 12:00, | 2.992E+00,WG | L28845-10 E |
| B,23L28845-10 | ,LIBD | | ,06/01/2006 | 10:14,233L082404 | |
| C,K-40 | ,YES, | 1.493E+01, | 5.161E+01, | 5.024E+01,, | 0.297 |
| C,RA-226 | ,YES, | 1.883E+01, | 8.269E+01, | 1.286E+02,, | 0.146 |
| C,TH-228 | ,YES, | 2.834E+00, | 5.687E+00, | 9.717E+00,, | 0.292 |
| C,BE-7 | ,NO , | 2.233E+01, | 3.117E+01, | 5.481E+01,, | 0.407 |
| C,CR-51 | ,NO , | -2.884E+01, | 3.937E+01, | 6.545E+01,, | -0.441 |
| C,MN-54 | ,NO , | -8.305E-01, | 2.831E+00, | 4.812E+00,, | -0.173 |
| C,CO-57 | ,NO , | 1.029E+00, | 3.346E+00, | 5.667E+00,, | 0.182 |
| C,CO-58 | ,NO , | -1.084E+00, | 3.263E+00, | 5.534E+00,, | -0.196 |
| C,FE-59 | ,NO , | 4.888E+00, | 6.737E+00, | 1.250E+01,, | 0.391 |
| C,CO-60 | ,NO , | 1.610E+00, | 2.848E+00, | 5.279E+00,, | 0.305 |
| C,ZN-65 | ,NO , | 7.814E+00, | 6.481E+00, | 1.229E+01,, | 0.636 |
| C,SE-75 | ,NO , | -6.508E-01, | 4.593E+00, | 7.822E+00,, | -0.083 |
| C,SR-85 | ,NO , | 1.567E+01, | 4.032E+00, | 7.791E+00,, | 2.011 |
| C,Y-88 | ,NO , | 1.453E+00, | 3.547E+00, | 6.619E+00,, | 0.220 |
| C,NB-94 | ,NO , | 2.276E+00, | 2.851E+00, | 5.155E+00,, | 0.441 |
| C,NB-95 | ,NO , | 4.758E+00, | 3.467E+00, | 6.473E+00,, | 0.735 |
| C,ZR-95 | ,NO , | -3.549E+00, | 5.920E+00, | 9.882E+00,, | -0.359 |
| C,MO-99 | ,NO , | -7.634E+02, | 1.519E+03, | 2.556E+03,, | -0.299 |
| C,RU-103 | ,NO , | 1.081E-01, | 4.036E+00, | 6.864E+00,, | 0.016 |
| C,RU-106 | ,NO , | 1.243E+01, | 2.822E+01, | 4.966E+01,, | 0.250 |
| C,AG-110m | ,NO , | 3.028E+00, | 2.923E+00, | 5.378E+00,, | 0.563 |
| C,SN-113 | ,NO , | -6.643E-01, | 4.125E+00, | 6.990E+00,, | -0.095 |
| C,SB-124 | ,NO , | -9.000E+00, | 9.588E+00, | 5.755E+00,, | -1.564 |
| C,SB-125 | ,NO , | 2.187E+00, | 8.880E+00, | 1.528E+01,, | 0.143 |
| C,TE-129M | ,NO , | -2.932E+01, | 4.804E+01, | 7.932E+01,, | -0.370 |
| C,I-131 | ,NO , | 6.506E+00, | 1.331E+01, | 2.314E+01,, | 0.281 |
| C,BA-133 | ,NO , | 1.286E-01, | 4.368E+00, | 7.449E+00,, | 0.017 |
| C,CS-134 | ,NO , | 1.554E+00, | 5.144E+00, | 5.849E+00,, | 0.266 |
| C,CS-136 | ,NO , | 3.393E+00, | 6.511E+00, | 1.171E+01,, | 0.290 |
| C,CS-137 | ,NO , | 3.232E-02, | 3.182E+00, | 5.531E+00,, | 0.006 |
| C,CE-139 | ,NO , | 5.183E-01, | 3.552E+00, | 5.960E+00,, | 0.087 |
| C,BA-140 | ,NO , | 1.380E+00, | 2.576E+01, | 4.394E+01,, | 0.031 |
| C,LA-140 | ,NO , | 4.082E+00, | 7.842E+00, | 1.476E+01,, | 0.277 |
| C,CE-141 | ,NO , | 5.550E+00, | 9.134E+00, | 1.327E+01,, | 0.418 |
| C,CE-144 | ,NO , | -2.394E+01, | 3.132E+01, | 4.347E+01,, | -0.551 |
| C,EU-152 | ,NO , | -7.717E+00, | 1.014E+01, | 1.679E+01,, | -0.459 |
| C,EU-154 | ,NO , | 2.999E+00, | 6.769E+00, | 1.150E+01,, | 0.261 |
| C,AC-228 | ,NO , | 1.172E+01, | 1.212E+01, | 2.097E+01,, | 0.559 |
| C,TH-232 | ,NO , | 1.165E+01, | 1.206E+01, | 2.085E+01,, | 0.559 |
| C,U-235 | ,NO , | 3.879E+01, | 3.021E+01, | 4.427E+01,, | 0.876 |
| C,U-238 | ,NO , | -1.362E+02, | 3.269E+02, | 5.377E+02,, | -0.253 |
| C,AM-241 | ,NO , | 1.230E+01, | 2.051E+01, | 2.949E+01,, | 0.417 |



2508 Quality Lane
Knoxville, TN 37931
865-690-6819 (Phone)

Work Order #: L29515

Exelon

August 14, 2006



Kathy Shaw
Conestoga-Rovers & Associates
45 Farmington Valley Road
Plainville CT 06062

**Case Narrative - L29515
EX001-3ESPDRES-06**

08/14/2006 15:57

Sample Receipt

The following samples were received on August 9, 2006 in good condition, unless otherwise noted.

Cross Reference Table

| Client ID | Laboratory ID | Station ID(if applicable) |
|--------------------------------|---------------|---------------------------|
| WG-DN-MW-DN-122I-080806-GL-001 | L29515-1 | |
| WG-DN-MW-DN-122S-080806-GL-002 | L29515-2 | |
| WG-DN-MW-DN-121S-080806-GL-003 | L29515-3 | |
| WG-DN-MW-DN-123I-080806-GL-004 | L29515-4 | |
| RB-DN-MW-DN-120I-080806-GL-005 | L29515-5 | |
| WG-DN-MW-DN-120I-080806-GL-006 | L29515-6 | |
| WG-DN-MW-DN-120S-080806-GL-007 | L29515-7 | |

Analytical Method Cross Reference Table

| Radiological Parameter | TBE Knoxville Method | Reference Method |
|------------------------|----------------------|------------------|
| Gamma Spectrometry | TBE-2007 | EPA 901.1 |
| H-3 (DIST) | TBE-2010 | |
| TOTAL SR | TBE-2018 | EPA 905.0 |



Case Narrative - L29515
EX001-3ESPDRES-06

08/14/2006 15:57

Gamma Spectroscopy

Quality Control

Quality control samples were analyzed as WG4301.

Duplicate Sample

Duplicates were analyzed for the following samples. All duplicate results were within acceptance limits, unless otherwise noted.

| <u>Client ID</u> | <u>Laboratory ID</u> | <u>QC Sample #</u> |
|--------------------------------|----------------------|--------------------|
| WG-DN-MW-DN-122I-080806-GL-001 | L29515-1 | WG4301-1 |

H-3 (DIST)

Quality Control

Quality control samples were analyzed as WG4302.

Method Blank

All blanks were within acceptance limits, unless otherwise noted.

Laboratory Control Sample

All laboratory control samples were within acceptance limits, unless otherwise noted.

Duplicate Sample

Duplicates were analyzed for the following samples. All duplicate results were within acceptance limits, unless otherwise noted.

| <u>Client ID</u> | <u>Laboratory ID</u> | <u>QC Sample #</u> |
|--------------------------------|----------------------|--------------------|
| WG-DN-MW-DN-122I-080806-GL-001 | L29515-1 | WG4302-3 |



Case Narrative - L29515
EX001-3ESPDRES-06

08/14/2006 15:57

TOTAL SR

Quality Control

Quality control samples were analyzed as WG4309.

Method Blank

All blanks were within acceptance limits, unless otherwise noted.

Laboratory Control Sample

All laboratory control samples were within acceptance limits, unless otherwise noted.

Duplicate Sample

Duplicates were analyzed for the following samples. All duplicate results were within acceptance limits, unless otherwise noted.


| <u>Client ID</u> | <u>Laboratory ID</u> | <u>QC Sample #</u> |
|--------------------------------|----------------------|--------------------|
| WG-DN-MW-DN-122I-080806-GL-001 | L29515-1 | WG4309-3 |

Certification

This is to certify that Teledyne Brown Engineering - Environmental Services, located at 2508 Quality Lane, Knoxville, Tennessee, 37931, has analyzed, tested and documented samples as specified in the applicable purchase order.

This also certifies that requirements of applicable codes, standards and specifications have been fully met and that any quality assurance documentation which verified conformance to the purchase order is on file and may be examined upon request.

I hereby certify that the above statements are true and correct.



Keith Jeter
Operations Manager

Sample Receipt Summary



EXCELON (DRESDEN FACILITY)

ATTN:

REBECCA CHARLES

FROM: GREG LEWIS
CRA, INC.

* PLEASE CALL WEDNESDAY MORNING
TO CORRECT A SMALL ISSUE WITH
THE CHAIN OF CUSTODY
(513) 200-8902

2 PGS INCL. COVER

L29515

| | | | | | | | |
|---|------|------|-------------------------------|---|-------------------|-----------------------|--|
| CONESTOGA-ROVERS & ASSOCIATES 9033 Meridian Way West Chester, Ohio 45069 513-942-4750 phone 513-942-8585 fax | | | | SHIPPED TO (Laboratory Name): TELEDYNE BROWN ENGINEERING | | | |
| CHAIN-OF-CUSTODY RECORD SAMPPLER'S SIGNATURE: _____ PRINTED NAME: _____ | | | | REFERENCE NUMBER: 45136-23-0015 | | | |
| PROJECT NAME: EXCELON - DRESDEN FACILITY | | | | PARAMETERS TRITIUM GAMMA-SE 8/29/90 | | | |
| SEQ. No. | DATE | TIME | SAMPLE IDENTIFICATION No. | SAMPLE MATRIX | No. OF CONTAINERS | REMARKS | |
| 8806 | 0850 | | WG-DPMW-DN-122E-080806-6L-001 | H ₂ O | 1 | X | |
| | 1005 | | ↓ | | 2 | X | |
| | 1205 | | ↓ | | 2 | X | |
| | 1430 | | ↓ | | 2 | X | |
| | 1440 | | RB-DPMW-DN-120E-080806-6L-005 | | 2 | X | |
| | 1650 | | WG-DPMW-DN-120E-080806-6L-006 | | 2 | X | |
| | 1610 | | WG-DPMW-DN-120S-080806-6L-007 | | 2 | X | |
| TOTAL NUMBER OF CONTAINERS 14 | | | | | | | |
| RELINQUISHED BY: <i>[Signature]</i> | | | | DATE: 8-8-86 | | RECEIVED BY: ② | |
| | | | | TIME: 1645 | | DATE: 8-8-86 | |
| RELINQUISHED BY: ② | | | | DATE: _____ | | RECEIVED BY: ③ | |
| | | | | TIME: _____ | | DATE: _____ | |
| RELINQUISHED BY: ③ | | | | DATE: _____ | | RECEIVED BY: ④ | |
| | | | | TIME: _____ | | DATE: _____ | |
| METHOD OF SHIPMENT: DHL | | | | AIR BILL No. 45329194046 | | | |
| White Yellow Pink Goldentrod | | | | SAMPLE TEAM: GREEN LEAF RACHEL NACHIST | | | |
| -Fully Executed Copy -Receiving Laboratory Copy -Shipper Copy -Sampler Copy | | | | RECEIVED FOR LABORATORY BY: Pat Marshall DATE: 8/9/06 TIME: 1030 | | | |

1001-00(SOURCE)GN-C0004

Charles, Rebecca

From: Shaw, Kathy [kshaw@craworld.com]
Sent: Wednesday, August 09, 2006 10:54 AM
To: Charles, Rebecca
Cc: Hoyt, Dennis; Larry.Walton@exeloncorp.com
Subject: Dresden

Hi Rebecca,

Attached please find a revised copy of the Dresden COC for samples collected yesterday. I changed the D in the sample IDs to DN. Please update your records.

Thanks,

Kathy Shaw - Chemist

Conestoga-Rovers & Associates
45 Farmington Valley Drive
Plainville, Connecticut 06062
PH 860 747-1800
Fax 860 747-1900
CRAWORLD.COM

8/9/2006

Charles, Rebecca

From: Larry.Walton@exeloncorp.com
Sent: Wednesday, August 09, 2006 11:39 AM
To: Charles, Rebecca; Wayne.Stotts@exeloncorp.com
Cc: kshaw@craworld.com
Subject: RE: TAT for Dresden

3 day TAT

Larry

-----Original Message-----

From: Charles, Rebecca [mailto:Rebecca.Charles@tbe.com]
Sent: Wednesday, August 09, 2006 11:38 AM
To: Stotts, Wayne A.
Cc: Walton, Larry; Shaw, Kathy
Subject: TAT for Dresden

Wayne

We received the samples from Dresden today. What turn-around time do you want for them?

Thanks

Rebecca Charles
Teledyne Brown Engineering
Project Manager
(865) 934-0379
(865) 934-0396 (fax)

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8/9/2006

08/09/06 10:44

Teledyne Brown Engineering
Sample Receipt Verification/Variance Report

SR #: SR09823

Client: Exelon

Project #: EX001-3ESPDRES-06

LIMS #: L29515

Initiated By: PMARSHALL

Init Date: 08/09/06 Receive Date: 08/09/06

Notification of Variance

Person Notified:

Contacted By:

Notify Date:

Notify Method:

Notify Comment:

Client Response

Person Responding:

Response Date:

Response Method:

Response Comment

| Criteria | Yes | No | NA | Comment |
|---|-----|----|----|---------|
| 1 Shipping container custody seals present and intact. | | | NA | |
| 2 Sample container custody seals present and intact. | | | NA | |
| 3 Sample containers received in good condition | | Y | | |
| 4 Chain of custody received with samples | | Y | | |
| 5 All samples listed on chain of custody received | | Y | | |
| 6 Sample container labels present and legible. | | Y | | |
| 7 Information on container labels correspond with chain of custody | | Y | | |
| 8 Sample(s) properly preserved and in appropriate container(s) | | N | | |
| Gamma portion of all seven samples required 5mL of nitric to be added to bring pH to 2. | | | | |
| 9 Other (Describe) | | | NA | |

Internal Chain of Custody

Internal Chain of Custody

Sample # L29515-1 Containernum 1

| | |
|--------------|---------|
| Prod | Analyst |
| H-3 (DIST) | DW |
| SR-90 (FAST) | LCB |
| GELI | DW |

| Relinquish Date | Relinquish By | | Received By | |
|------------------|---------------|------------------|-------------|------------------|
| 08/09/2006 00:00 | | | 099999 | Sample Custodian |
| 08/09/2006 12:33 | 099999 | Sample Custodian | 030854 | Donna Webb |
| 08/14/2006 08:05 | 030854 | Donna Webb | 099999 | Sample Custodian |

Sample # L29515-1 Containernum 2

| | |
|--------------|---------|
| Prod | Analyst |
| H-3 (DIST) | DW |
| SR-90 (FAST) | LCB |
| GELI | DW |

| Relinquish Date | Relinquish By | | Received By | |
|------------------|---------------|------------------|-------------|------------------|
| 08/09/2006 00:00 | | | 099999 | Sample Custodian |
| 08/09/2006 12:33 | 099999 | Sample Custodian | 030854 | Donna Webb |
| 08/09/2006 12:34 | 030854 | Donna Webb | 029728 | Lauren Larsen |
| 08/14/2006 08:04 | 029728 | Lauren Larsen | 030854 | Donna Webb |
| 08/14/2006 08:05 | 030854 | Donna Webb | 099999 | Sample Custodian |

Sample # L29515-2 Containernum 1

| | |
|--------------|---------|
| Prod | Analyst |
| H-3 (DIST) | DW |
| SR-90 (FAST) | LCB |
| GELI | DW |

| Relinquish Date | Relinquish By | | Received By | |
|------------------|---------------|------------------|-------------|------------------|
| 08/09/2006 00:00 | | | 099999 | Sample Custodian |
| 08/09/2006 12:33 | 099999 | Sample Custodian | 030854 | Donna Webb |
| 08/14/2006 08:05 | 030854 | Donna Webb | 099999 | Sample Custodian |

Sample # L29515-2 Containernum 2

| | |
|--------------|---------|
| Prod | Analyst |
| H-3 (DIST) | DW |
| SR-90 (FAST) | LCB |
| GELI | DW |

| Relinquish Date | Relinquish By | | Received By | |
|------------------|---------------|------------------|-------------|------------------|
| 08/09/2006 00:00 | | | 099999 | Sample Custodian |
| 08/09/2006 12:33 | 099999 | Sample Custodian | 030854 | Donna Webb |
| 08/09/2006 12:34 | 030854 | Donna Webb | 029728 | Lauren Larsen |
| 08/14/2006 08:04 | 029728 | Lauren Larsen | 030854 | Donna Webb |
| 08/14/2006 08:05 | 030854 | Donna Webb | 099999 | Sample Custodian |

Sample # L29515-3 Containernum 1

| | |
|------|---------|
| Prod | Analyst |
|------|---------|

Internal Chain of Custody

Sample # L29515-3 Containernum 1

H-3 (DIST) DW
SR-90 (FAST) LCB
GELI DW

| Relinquish Date | Relinquish By | | Received By |
|------------------|---------------|------------------|------------------------------|
| 08/09/2006 00:00 | | | 099999 Sample Custodian |
| 08/09/2006 12:33 | 099999 | Sample Custodian | 030854 Donna Webb |
| 08/14/2006 08:05 | 030854 | Donna Webb | 099999 Sample Custodian |

Sample # L29515-3 Containernum 2

Prod Analyst
H-3 (DIST) DW
SR-90 (FAST) LCB
GELI DW

| Relinquish Date | Relinquish By | | Received By |
|------------------|---------------|------------------|------------------------------|
| 08/09/2006 00:00 | | | 099999 Sample Custodian |
| 08/09/2006 12:33 | 099999 | Sample Custodian | 030854 Donna Webb |
| 08/09/2006 12:34 | 030854 | Donna Webb | 029728 Lauren Larsen |
| 08/14/2006 08:04 | 029728 | Lauren Larsen | 030854 Donna Webb |
| 08/14/2006 08:05 | 030854 | Donna Webb | 099999 Sample Custodian |

Sample # L29515-4 Containernum 1

Prod Analyst
H-3 (DIST) DW
SR-90 (FAST) LCB
GELI DW

| Relinquish Date | Relinquish By | | Received By |
|------------------|---------------|------------------|------------------------------|
| 08/09/2006 00:00 | | | 099999 Sample Custodian |
| 08/09/2006 12:33 | 099999 | Sample Custodian | 030854 Donna Webb |
| 08/14/2006 08:05 | 030854 | Donna Webb | 099999 Sample Custodian |

Sample # L29515-4 Containernum 2

Prod Analyst
H-3 (DIST) DW
SR-90 (FAST) LCB
GELI DW

| Relinquish Date | Relinquish By | | Received By |
|------------------|---------------|------------------|------------------------------|
| 08/09/2006 00:00 | | | 099999 Sample Custodian |
| 08/09/2006 12:33 | 099999 | Sample Custodian | 030854 Donna Webb |
| 08/09/2006 12:34 | 030854 | Donna Webb | 029728 Lauren Larsen |
| 08/14/2006 08:04 | 029728 | Lauren Larsen | 030854 Donna Webb |
| 08/14/2006 08:05 | 030854 | Donna Webb | 099999 Sample Custodian |

Sample # L29515-5 Containernum 1

Prod Analyst

Sample # L29515-5 Containernum 1

H-3 (DIST) DW
SR-90 (FAST) LCB
GELI DW

| Relinquish Date | Relinquish By | | Received By | |
|------------------|---------------|------------------|-------------|------------------|
| 08/09/2006 00:00 | | | 099999 | Sample Custodian |
| 08/09/2006 12:33 | 099999 | Sample Custodian | 030854 | Donna Webb |
| 08/14/2006 08:05 | 030854 | Donna Webb | 099999 | Sample Custodian |

Sample # L29515-5 Containernum 2

Prod Analyst
H-3 (DIST) DW
SR-90 (FAST) LCB
GELI DW

| Relinquish Date | Relinquish By | | Received By | |
|------------------|---------------|------------------|-------------|------------------|
| 08/09/2006 00:00 | | | 099999 | Sample Custodian |
| 08/09/2006 12:33 | 099999 | Sample Custodian | 030854 | Donna Webb |
| 08/09/2006 12:34 | 030854 | Donna Webb | 029728 | Lauren Larsen |
| 08/14/2006 08:04 | 029728 | Lauren Larsen | 030854 | Donna Webb |
| 08/14/2006 08:05 | 030854 | Donna Webb | 099999 | Sample Custodian |

Sample # L29515-6 Containernum 1

Prod Analyst
H-3 (DIST) DW
SR-90 (FAST) LCB
GELI DW

| Relinquish Date | Relinquish By | | Received By | |
|------------------|---------------|------------------|-------------|------------------|
| 08/09/2006 00:00 | | | 099999 | Sample Custodian |
| 08/09/2006 12:33 | 099999 | Sample Custodian | 030854 | Donna Webb |
| 08/14/2006 08:05 | 030854 | Donna Webb | 099999 | Sample Custodian |

Sample # L29515-6 Containernum 2

Prod Analyst
H-3 (DIST) DW
SR-90 (FAST) LCB
GELI DW

| Relinquish Date | Relinquish By | | Received By | |
|------------------|---------------|------------------|-------------|------------------|
| 08/09/2006 00:00 | | | 099999 | Sample Custodian |
| 08/09/2006 12:33 | 099999 | Sample Custodian | 030854 | Donna Webb |
| 08/09/2006 12:34 | 030854 | Donna Webb | 029728 | Lauren Larsen |
| 08/14/2006 08:04 | 029728 | Lauren Larsen | 030854 | Donna Webb |
| 08/14/2006 08:05 | 030854 | Donna Webb | 099999 | Sample Custodian |

Sample # L29515-7 Containernum 1

Prod Analyst

Sample # L29515-7 Containernum 1

H-3 (DIST) DW
SR-90 (FAST) LCB
GELI DW

| Relinquish Date | Relinquish By | | Received By | |
|------------------|---------------|------------------|-------------|------------------|
| 08/09/2006 00:00 | | | 099999 | Sample Custodian |
| 08/09/2006 12:33 | 099999 | Sample Custodian | 030854 | Donna Webb |
| 08/14/2006 08:05 | 030854 | Donna Webb | 099999 | Sample Custodian |

Sample # L29515-7 Containernum 2

Prod Analyst
H-3 (DIST) DW
SR-90 (FAST) LCB
GELI DW

| Relinquish Date | Relinquish By | | Received By | |
|------------------|---------------|------------------|-------------|------------------|
| 08/09/2006 00:00 | | | 099999 | Sample Custodian |
| 08/09/2006 12:33 | 099999 | Sample Custodian | 030854 | Donna Webb |
| 08/09/2006 12:34 | 030854 | Donna Webb | 029728 | Lauren Larsen |
| 08/14/2006 08:04 | 029728 | Lauren Larsen | 030854 | Donna Webb |
| 08/14/2006 08:05 | 030854 | Donna Webb | 099999 | Sample Custodian |

L29515

L29515-1 WG WG-DN-MW-DN-122I-080806-GL-001

| <u>Process step</u> | <u>Prod</u> | <u>Analyst</u> | <u>Date</u> |
|---------------------|--------------|----------------|-------------|
| Login | | RCHARLES | 08/09/06 |
| Aliquot | GELI | DW | 08/09/06 |
| Aliquot | H-3 (DIST) | DW | 08/10/06 |
| Aliquot | SR-90 (FAST) | LCB | 08/10/06 |
| Count Room | GELI | KPW | 08/10/06 |
| Count Room | H-3 (DIST) | KOJ | 08/10/06 |
| Count Room | SR-90 (FAST) | KOJ | 08/14/06 |

L29515-2 WG WG-DN-MW-DN-122S-080806-GL-002

| <u>Process step</u> | <u>Prod</u> | <u>Analyst</u> | <u>Date</u> |
|---------------------|--------------|----------------|-------------|
| Login | | RCHARLES | 08/09/06 |
| Aliquot | GELI | DW | 08/09/06 |
| Aliquot | H-3 (DIST) | DW | 08/10/06 |
| Aliquot | SR-90 (FAST) | LCB | 08/10/06 |
| Count Room | GELI | KPW | 08/10/06 |
| Count Room | H-3 (DIST) | KOJ | 08/10/06 |
| Count Room | SR-90 (FAST) | KOJ | 08/14/06 |

L29515-3 WG WG-DN-MW-DN-121S-080806-GL-003

| <u>Process step</u> | <u>Prod</u> | <u>Analyst</u> | <u>Date</u> |
|---------------------|--------------|----------------|-------------|
| Login | | RCHARLES | 08/09/06 |
| Aliquot | GELI | DW | 08/09/06 |
| Aliquot | H-3 (DIST) | DW | 08/10/06 |
| Aliquot | SR-90 (FAST) | LCB | 08/10/06 |
| Count Room | GELI | KPW | 08/10/06 |
| Count Room | H-3 (DIST) | KOJ | 08/10/06 |
| Count Room | SR-90 (FAST) | KOJ | 08/14/06 |

L29515-4 WG WG-DN-MW-DN-123I-080806-GL-004

| <u>Process step</u> | <u>Prod</u> | <u>Analyst</u> | <u>Date</u> |
|---------------------|--------------|----------------|-------------|
| Login | | RCHARLES | 08/09/06 |
| Aliquot | GELI | DW | 08/09/06 |
| Aliquot | H-3 (DIST) | DW | 08/10/06 |
| Aliquot | SR-90 (FAST) | LCB | 08/10/06 |
| Count Room | GELI | KPW | 08/10/06 |
| Count Room | H-3 (DIST) | KOJ | 08/10/06 |
| Count Room | SR-90 (FAST) | KOJ | 08/14/06 |

L29515-5 WG RB-DN-MW-DN-120I-080806-GL-005

| <u>Process step</u> | <u>Prod</u> | <u>Analyst</u> | <u>Date</u> |
|---------------------|--------------|----------------|-------------|
| Login | | RCHARLES | 08/09/06 |
| Aliquot | GELI | DW | 08/09/06 |
| Aliquot | H-3 (DIST) | DW | 08/10/06 |
| Aliquot | SR-90 (FAST) | LCB | 08/10/06 |
| Count Room | GELI | KPW | 08/10/06 |

08/14/06

Teledyne Brown Engineering
Internal Chain of Custody
Supplemental SheetL29515 19 of 70
Page 2 of 2

L29515

L29515-5 WG RB-DN-MW-DN-120I-080806-GL-005

| | | | |
|------------|--------------|-----|----------|
| Count Room | H-3 (DIST) | KOJ | 08/10/06 |
| Count Room | SR-90 (FAST) | KOJ | 08/14/06 |

L29515-6 WG WG-DN-MW-DN-120I-080806-GL-006

| <u>Process step</u> | <u>Prod</u> | <u>Analyst</u> | <u>Date</u> |
|---------------------|--------------|----------------|-------------|
| Login | | RCHARLES | 08/09/06 |
| Aliquot | GELI | DW | 08/09/06 |
| Aliquot | H-3 (DIST) | DW | 08/10/06 |
| Aliquot | SR-90 (FAST) | LCB | 08/10/06 |
| Count Room | GELI | KPW | 08/10/06 |
| Count Room | H-3 (DIST) | KOJ | 08/11/06 |
| Count Room | SR-90 (FAST) | KOJ | 08/14/06 |

L29515-7 WG WG-DN-MW-DN-120S-080806-GL-007

| <u>Process step</u> | <u>Prod</u> | <u>Analyst</u> | <u>Date</u> |
|---------------------|--------------|----------------|-------------|
| Login | | RCHARLES | 08/09/06 |
| Aliquot | GELI | DW | 08/09/06 |
| Aliquot | H-3 (DIST) | DW | 08/10/06 |
| Aliquot | SR-90 (FAST) | LCB | 08/10/06 |
| Count Room | GELI | KPW | 08/10/06 |
| Count Room | H-3 (DIST) | KOJ | 08/11/06 |
| Count Room | SR-90 (FAST) | KOJ | 08/14/06 |

L29515

In Process

| <u>Sample#</u> | <u>Analysis</u> | <u>Matrix</u> | <u>Clientid</u> |
|----------------|-----------------|---------------|-----------------|
|----------------|-----------------|---------------|-----------------|

In Process QC

| <u>Sample #</u> | <u>Analysis</u> | <u>Matrix</u> | <u>Clientid</u> |
|-----------------|-----------------|---------------|-----------------|
|-----------------|-----------------|---------------|-----------------|

Missing gamma nuclides

| <u>Sample #</u> | <u>Nuclide</u> |
|-----------------|----------------|
|-----------------|----------------|

Spec/High Flags

| <u>Sample#</u> | <u>Analysis</u> | <u>Flag</u> |
|----------------|-----------------|-------------|
|----------------|-----------------|-------------|

QC Failures

| <u>Qc Sample</u> | <u>Analysis</u> | <u>QC type</u> | <u>Passfail</u> |
|------------------|-----------------|----------------|-----------------|
|------------------|-----------------|----------------|-----------------|

Recoveries

| <u>Sample#</u> | <u>Analysis</u> | <u>Flag</u> |
|----------------|-----------------|-------------|
|----------------|-----------------|-------------|

Comments

| <u>Sample#</u> | <u>Analysis</u> | <u>Seq</u> | <u>Comments</u> |
|----------------|-----------------|------------|-----------------|
|----------------|-----------------|------------|-----------------|

Analytical Results Summary

Report of Analysis

08/14/06 15:57

L29515

Conestoga-Rovers & Associates

EX001-3ESPDRES-06

Kathy Shaw

Sample ID: **WG-DN-MW-DN-1221-080806-GL-001**

Station:

Description:

LIMS Number: L29515-1

Collect Start: 08/08/2006 08:50

Collect Stop:

Receive Date: 08/09/2006

Matrix: Ground Water

Volume:

% Moisture:

(WG)

| Radionuclide | SOP# | Activity Conc | Uncertainty 2 Sigma | MDC | Units | Run # | Aliquot Volume | Aliquot Units | Reference Date | Count Date | Count Time | Count Units | Flag Values |
|--------------|------|-----------------|---------------------|-----------------|-------|-------|----------------|---------------|----------------|------------|------------|-------------|-------------|
| H-3 (DIST) | 2010 | -5.89E+01 | 1.05E+02 | 1.79E+02 | pCi/L | | 10 | ml | 08/08/06 08:50 | 08/10/06 | 60 | M | U |
| TOTAL SR | 2018 | -5.73E-01 | 6.58E-01 | 1.46E+00 | pCi/L | | 450 | ml | 08/08/06 08:50 | 08/14/06 | 120 | M | U |
| K-40 | 2007 | 1.04E+02 | 4.83E+01 | 4.06E+01 | pCi/L | | 3206.32 | ml | 08/08/06 08:50 | 08/10/06 | 8238 | Sec | + |
| MN-54 | 2007 | -4.71E-01 | 2.40E+00 | 3.87E+00 | pCi/L | | 3206.32 | ml | 08/08/06 08:50 | 08/10/06 | 8238 | Sec | U |
| CO-58 | 2007 | -1.72E+00 | 2.37E+00 | 3.56E+00 | pCi/L | | 3206.32 | ml | 08/08/06 08:50 | 08/10/06 | 8238 | Sec | U |
| FE-59 | 2007 | 3.32E+00 | 5.04E+00 | 8.90E+00 | pCi/L | | 3206.32 | ml | 08/08/06 08:50 | 08/10/06 | 8238 | Sec | U |
| CO-60 | 2007 | -1.21E+00 | 3.34E+00 | 5.75E+00 | pCi/L | | 3206.32 | ml | 08/08/06 08:50 | 08/10/06 | 8238 | Sec | U |
| ZN-65 | 2007 | -6.75E+00 | 6.60E+00 | 9.18E+00 | pCi/L | | 3206.32 | ml | 08/08/06 08:50 | 08/10/06 | 8238 | Sec | U |
| NB-95 | 2007 | 9.27E-02 | 2.51E+00 | 4.20E+00 | pCi/L | | 3206.32 | ml | 08/08/06 08:50 | 08/10/06 | 8238 | Sec | U |
| ZR-95 | 2007 | 2.78E+00 | 4.02E+00 | 7.26E+00 | pCi/L | | 3206.32 | ml | 08/08/06 08:50 | 08/10/06 | 8238 | Sec | U |
| CS-134 | 2007 | 1.05E+00 | 2.33E+00 | 3.54E+00 | pCi/L | | 3206.32 | ml | 08/08/06 08:50 | 08/10/06 | 8238 | Sec | U |
| CS-137 | 2007 | -2.19E+00 | 2.87E+00 | 4.15E+00 | pCi/L | | 3206.32 | ml | 08/08/06 08:50 | 08/10/06 | 8238 | Sec | U |
| BA-140 | 2007 | -9.90E-01 | 9.69E+00 | 1.56E+01 | pCi/L | | 3206.32 | ml | 08/08/06 08:50 | 08/10/06 | 8238 | Sec | U |
| LA-140 | 2007 | -4.39E-01 | 3.40E+00 | 5.42E+00 | pCi/L | | 3206.32 | ml | 08/08/06 08:50 | 08/10/06 | 8238 | Sec | U |

Flag Values

U = Compound/Analyte not detected or less than 3 sigma
 + = Activity concentration exceeds MDC and 3 sigma; peak identified(gamma only)
 U* = Compound/Analyte not detected. Peak not identified, but forced activity concentration exceeds MDC and 3 sigma
 High = Activity concentration exceeds customer reporting value
 Spec = MDC exceeds customer technical specification
 L = Low recovery
 H = High recovery

Bolded text indicates reportable value.

No = Peak not identified in gamma spectrum
 Yes = Peak identified in gamma spectrum
 **** Results are reported on an as received basis unless otherwise noted

MDC - Minimum Detectable Concentration

Report of Analysis

08/14/06 15:57

L29515

Conestoga-Rovers & Associates

EX001-3ESPDRES-06

Kathy Shaw

| Sample ID: WG-DN-MW-DN-122S-080806-GL-002 | | | | Collect Start: 08/08/2006 10:05 | | | | Matrix: Ground Water | | | | (WG) | | |
|--|------|---------------|---------------------|---------------------------------|-------|-------|----------------|----------------------|----------------|------------|------------|-------------|-------------|--|
| Station: | | | | Collect Stop: | | | | Volume: | | | | | | |
| Description: | | | | Receive Date: 08/09/2006 | | | | % Moisture: | | | | | | |
| LIMS Number: L29515-2 | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | |
| Radionuclide | SOP# | Activity Conc | Uncertainty 2 Sigma | MDC | Units | Run # | Aliquot Volume | Aliquot Units | Reference Date | Count Date | Count Time | Count Units | Flag Values | |
| H-3 (DIST) | 2010 | -5.93E+01 | 1.06E+02 | 1.81E+02 | pCi/L | | 10 | ml | | 08/10/06 | 60 | M | U | |
| TOTAL SR | 2018 | 5.47E-01 | 7.50E-01 | 1.43E+00 | pCi/L | | 450 | ml | | 08/14/06 | 120 | M | U | |
| MN-54 | 2007 | 8.99E-01 | 3.58E+00 | 5.97E+00 | pCi/L | | 3327.53 | ml | | 08/10/06 | 11239 | Sec | U | |
| CO-58 | 2007 | -3.47E+00 | 3.69E+00 | 5.68E+00 | pCi/L | | 3327.53 | ml | | 08/10/06 | 11239 | Sec | U | |
| FE-59 | 2007 | 5.41E+00 | 6.81E+00 | 1.19E+01 | pCi/L | | 3327.53 | ml | | 08/10/06 | 11239 | Sec | U | |
| CO-60 | 2007 | -6.61E-01 | 4.06E+00 | 6.92E+00 | pCi/L | | 3327.53 | ml | | 08/10/06 | 11239 | Sec | U | |
| ZN-65 | 2007 | 4.00E+01 | 1.01E+01 | 1.90E+01 | pCi/L | | 3327.53 | ml | | 08/10/06 | 11239 | Sec | U | |
| NB-95 | 2007 | 1.62E+01 | 4.76E+00 | 8.37E+00 | pCi/L | | 3327.53 | ml | | 08/10/06 | 11239 | Sec | U* | |
| ZR-95 | 2007 | -6.17E+00 | 6.16E+00 | 9.50E+00 | pCi/L | | 3327.53 | ml | | 08/10/06 | 11239 | Sec | U* | |
| CS-134 | 2007 | 1.04E+01 | 4.68E+00 | 7.47E+00 | pCi/L | | 3327.53 | ml | | 08/10/06 | 11239 | Sec | U | |
| CS-137 | 2007 | 1.10E+00 | 4.33E+00 | 6.09E+00 | pCi/L | | 3327.53 | ml | | 08/10/06 | 11239 | Sec | U | |
| BA-140 | 2007 | -6.21E+00 | 1.37E+01 | 2.20E+01 | pCi/L | | 3327.53 | ml | | 08/10/06 | 11239 | Sec | U | |
| LA-140 | 2007 | -1.37E-01 | 4.48E+00 | 7.31E+00 | pCi/L | | 3327.53 | ml | | 08/10/06 | 11239 | Sec | U | |
| TH-228 | 2007 | 1.27E+01 | 7.22E+00 | 1.07E+01 | pCi/L | | 3327.53 | ml | | 08/10/06 | 11239 | Sec | + | |
| | | | | | | | | | | | | | | |

Flag Values

U = Compound/Analyte not detected or less than 3 sigma
 + = Activity concentration exceeds MDC and 3 sigma; peak identified (gamma only)
 U* = Compound/Analyte not detected. Peak not identified, but forced activity concentration exceeds MDC and 3 sigma
 High = Activity concentration exceeds customer reporting value
 Spec = MDC exceeds customer technical specification
 L = Low recovery
 H = High recovery

Bolded text indicates reportable value.

No = Peak not identified in gamma spectrum
 Yes = Peak identified in gamma spectrum
 **** Results are reported on an as received basis unless otherwise noted

MDC - Minimum Detectable Concentration

Report of Analysis

08/14/06 15:57

L29515

Conestoga-Rovers & Associates

EX001-3ESPDRES-06

Kathy Shaw

| Sample ID: WG-DN-MW-DN-121S-080806-GL-003 | | | | Collect Start: 08/08/2006 12:05 | | | | Matrix: Ground Water | | | | (WG) | |
|--|------|---------------|---------------------|---------------------------------|-------|-------|----------------|----------------------|----------------|------------|------------|-------------|-------------|
| Station: | | | | Collect Stop: | | | | Volume: | | | | | |
| Description: | | | | Receive Date: 08/09/2006 | | | | % Moisture: | | | | | |
| LIMS Number: L29515-3 | | | | | | | | | | | | | |
| Radionuclide | SOP# | Activity Conc | Uncertainty 2 Sigma | MDC | Units | Run # | Aliquot Volume | Aliquot Units | Reference Date | Count Date | Count Time | Count Units | Flag Values |
| H-3 (DIST) | 2010 | 7.54E+01 | 1.16E+02 | 1.82E+02 | pCi/L | | 10 | ml | | 08/10/06 | 60 | M | U |
| TOTAL SR | 2018 | 6.04E-01 | 5.19E-01 | 9.53E-01 | pCi/L | | 450 | ml | 08/08/06 12:05 | 08/14/06 | 120 | M | U |
| MN-54 | 2007 | -3.43E+00 | 2.73E+00 | 3.98E+00 | pCi/L | | 3330.13 | ml | 08/08/06 12:05 | 08/10/06 | 10800 | Sec | No |
| CO-58 | 2007 | -2.50E+00 | 2.60E+00 | 3.90E+00 | pCi/L | | 3330.13 | ml | 08/08/06 12:05 | 08/10/06 | 10800 | Sec | No |
| FE-59 | 2007 | -2.06E+00 | 4.98E+00 | 7.97E+00 | pCi/L | | 3330.13 | ml | 08/08/06 12:05 | 08/10/06 | 10800 | Sec | No |
| CO-60 | 2007 | 4.81E-01 | 2.67E+00 | 4.44E+00 | pCi/L | | 3330.13 | ml | 08/08/06 12:05 | 08/10/06 | 10800 | Sec | No |
| ZN-65 | 2007 | 4.27E+00 | 6.24E+00 | 9.63E+00 | pCi/L | | 3330.13 | ml | 08/08/06 12:05 | 08/10/06 | 10800 | Sec | No |
| NB-95 | 2007 | 8.56E+00 | 3.22E+00 | 5.61E+00 | pCi/L | | 3330.13 | ml | 08/08/06 12:05 | 08/10/06 | 10800 | Sec | No |
| ZR-95 | 2007 | -4.19E-01 | 4.16E+00 | 6.74E+00 | pCi/L | | 3330.13 | ml | 08/08/06 12:05 | 08/10/06 | 10800 | Sec | U* |
| CS-134 | 2007 | 4.51E-01 | 2.92E+00 | 3.75E+00 | pCi/L | | 3330.13 | ml | 08/08/06 12:05 | 08/10/06 | 10800 | Sec | No |
| CS-137 | 2007 | -3.12E+00 | 2.88E+00 | 4.41E+00 | pCi/L | | 3330.13 | ml | 08/08/06 12:05 | 08/10/06 | 10800 | Sec | No |
| BA-140 | 2007 | -1.81E-01 | 9.62E+00 | 1.61E+01 | pCi/L | | 3330.13 | ml | 08/08/06 12:05 | 08/10/06 | 10800 | Sec | No |
| LA-140 | 2007 | -3.49E-01 | 3.28E+00 | 5.41E+00 | pCi/L | | 3330.13 | ml | 08/08/06 12:05 | 08/10/06 | 10800 | Sec | No |
| TH-228 | 2007 | 1.83E+01 | 7.47E+00 | 7.71E+00 | pCi/L | | 3330.13 | ml | 08/08/06 12:05 | 08/10/06 | 10800 | Sec | + |

Flag Values

U = Compound/Analyte not detected or less than 3 sigma
+ = Activity concentration exceeds MDC and 3 sigma; peak identified(gamma only)
U* = Compound/Analyte not detected. Peak not identified, but forced activity concentration exceeds MDC and 3 sigma
High = Activity concentration exceeds customer reporting value
Spec = MDC exceeds customer technical specification
L = Low recovery
H = High recovery

Bolded text indicates reportable value.

No = Peak not identified in gamma spectrum
Yes = Peak identified in gamma spectrum
**** Results are reported on an as received basis unless otherwise noted

MDC - Minimum Detectable Concentration

Report of Analysis

08/14/06 15:57

L29515

Conestoga-Rovers & Associates

EX001-3ESPDRES-06

Kathy Shaw

| Sample ID: WG-DN-MW-DN-1231-080806-GL-004 | | | | Collect Start: 08/08/2006 14:30 | | | | Matrix: Ground Water | | | | (WG) | |
|---|------|---------------|---------------------|---------------------------------|-------|-------|----------------|----------------------|----------------|------------|------------|-------------|-------------|
| Station: | | | | Collect Stop: | | | | Volume: | | | | | |
| Description: | | | | Receive Date: 08/09/2006 | | | | % Moisture: | | | | | |
| LIMS Number: L29515-4 | | | | | | | | | | | | | |
| Radionuclide | SOP# | Activity Conc | Uncertainty 2 Sigma | MDC | Units | Run # | Aliquot Volume | Aliquot Units | Reference Date | Count Date | Count Time | Count Units | Flag Values |
| H-3 (DIST) | 2010 | -2.71E+01 | 1.11E+02 | 1.86E+02 | pCi/L | | 10 | ml | | 08/10/06 | 60 | M | U |
| TOTAL SR | 2018 | -8.99E-01 | 6.00E-01 | 1.41E+00 | pCi/L | | 450 | ml | 08/08/06 14:30 | 08/14/06 | 120 | M | U |
| MN-54 | 2007 | 2.45E+00 | 2.92E+00 | 5.59E+00 | pCi/L | | 3206.17 | ml | 08/08/06 14:30 | 08/10/06 | 7200 | Sec | U |
| CO-58 | 2007 | 2.12E+00 | 2.98E+00 | 5.63E+00 | pCi/L | | 3206.17 | ml | 08/08/06 14:30 | 08/10/06 | 7200 | Sec | U |
| FE-59 | 2007 | 3.40E+00 | 6.33E+00 | 1.20E+01 | pCi/L | | 3206.17 | ml | 08/08/06 14:30 | 08/10/06 | 7200 | Sec | U |
| CO-60 | 2007 | 6.82E-01 | 3.15E+00 | 5.90E+00 | pCi/L | | 3206.17 | ml | 08/08/06 14:30 | 08/10/06 | 7200 | Sec | U |
| ZN-65 | 2007 | -3.03E+00 | 7.37E+00 | 1.07E+01 | pCi/L | | 3206.17 | ml | 08/08/06 14:30 | 08/10/06 | 7200 | Sec | U |
| NB-95 | 2007 | 3.56E+00 | 3.93E+00 | 6.53E+00 | pCi/L | | 3206.17 | ml | 08/08/06 14:30 | 08/10/06 | 7200 | Sec | U |
| ZR-95 | 2007 | -1.63E+00 | 5.35E+00 | 9.16E+00 | pCi/L | | 3206.17 | ml | 08/08/06 14:30 | 08/10/06 | 7200 | Sec | U |
| CS-134 | 2007 | -3.80E-01 | 3.23E+00 | 4.85E+00 | pCi/L | | 3206.17 | ml | 08/08/06 14:30 | 08/10/06 | 7200 | Sec | U |
| CS-137 | 2007 | -2.21E+00 | 3.15E+00 | 5.22E+00 | pCi/L | | 3206.17 | ml | 08/08/06 14:30 | 08/10/06 | 7200 | Sec | U |
| BA-140 | 2007 | -9.12E+00 | 1.12E+01 | 1.86E+01 | pCi/L | | 3206.17 | ml | 08/08/06 14:30 | 08/10/06 | 7200 | Sec | U |
| LA-140 | 2007 | 7.57E-02 | 3.95E+00 | 7.21E+00 | pCi/L | | 3206.17 | ml | 08/08/06 14:30 | 08/10/06 | 7200 | Sec | U |

Flag Values

U = Compound/Analyte not detected or less than 3 sigma
 + = Activity concentration exceeds MDC and 3 sigma; peak identified (gamma only)
 U* = Compound/Analyte not detected. Peak not identified, but forced activity concentration exceeds MDC and 3 sigma
 High = Activity concentration exceeds customer reporting value
 Spec = MDC exceeds customer technical specification
 L = Low recovery
 H = High recovery

Bolded text indicates reportable value.

No = Peak not identified in gamma spectrum
 Yes = Peak identified in gamma spectrum
 **** Results are reported on an as received basis unless otherwise noted

MDC - Minimum Detectable Concentration

Report of Analysis

08/14/06 15:57

L29515

Conestoga-Rovers & Associates

EX001-3ESPDRES-06

Kathy Shaw

| Sample ID: RB-DN-MW-DN-1201-080806-GL-005 | | | | Collect Start: 08/08/2006 14:40 | | | | Matrix: Ground Water | | | | (WG) | |
|--|------|---------------|---------------------|---------------------------------|-------|-------|----------------|----------------------|----------------|------------|------------|-------------|-------------|
| Station: | | | | Collect Stop: | | | | Volume: | | | | | |
| Description: | | | | Receive Date: 08/09/2006 | | | | % Moisture: | | | | | |
| LIMS Number: L29515-5 | | | | | | | | | | | | | |
| Radionuclide | SOP# | Activity Conc | Uncertainty 2 Sigma | MDC | Units | Run # | Aliquot Volume | Aliquot Units | Reference Date | Count Date | Count Time | Count Units | Flag Values |
| H-3 (DIST) | 2010 | -5.69E+01 | 1.05E+02 | 1.80E+02 | pCi/L | | 10 | ml | | 08/10/06 | 60 | M | U |
| TOTAL SR | 2018 | 2.07E-02 | 4.36E-01 | 8.86E-01 | pCi/L | | 450 | ml | 08/08/06 14:40 | 08/14/06 | 120 | M | U |
| MN-54 | 2007 | 2.27E+00 | 2.53E+00 | 4.49E+00 | pCi/L | | 3257.43 | ml | 08/08/06 14:40 | 08/10/06 | 8174 | Sec | U |
| CO-58 | 2007 | -9.85E-01 | 2.50E+00 | 3.88E+00 | pCi/L | | 3257.43 | ml | 08/08/06 14:40 | 08/10/06 | 8174 | Sec | U |
| FE-59 | 2007 | 3.42E+00 | 4.91E+00 | 8.77E+00 | pCi/L | | 3257.43 | ml | 08/08/06 14:40 | 08/10/06 | 8174 | Sec | U |
| CO-60 | 2007 | 2.32E+00 | 2.82E+00 | 5.09E+00 | pCi/L | | 3257.43 | ml | 08/08/06 14:40 | 08/10/06 | 8174 | Sec | U |
| ZN-65 | 2007 | -4.25E-01 | 6.43E+00 | 9.05E+00 | pCi/L | | 3257.43 | ml | 08/08/06 14:40 | 08/10/06 | 8174 | Sec | U |
| NB-95 | 2007 | 1.49E-02 | 2.41E+00 | 3.93E+00 | pCi/L | | 3257.43 | ml | 08/08/06 14:40 | 08/10/06 | 8174 | Sec | U |
| ZR-95 | 2007 | 8.90E-01 | 4.13E+00 | 6.91E+00 | pCi/L | | 3257.43 | ml | 08/08/06 14:40 | 08/10/06 | 8174 | Sec | U |
| CS-134 | 2007 | -1.35E+00 | 2.58E+00 | 3.46E+00 | pCi/L | | 3257.43 | ml | 08/08/06 14:40 | 08/10/06 | 8174 | Sec | U |
| CS-137 | 2007 | 2.60E+00 | 2.73E+00 | 4.89E+00 | pCi/L | | 3257.43 | ml | 08/08/06 14:40 | 08/10/06 | 8174 | Sec | U |
| BA-140 | 2007 | 3.91E+00 | 9.35E+00 | 1.62E+01 | pCi/L | | 3257.43 | ml | 08/08/06 14:40 | 08/10/06 | 8174 | Sec | U |
| LA-140 | 2007 | -3.85E-02 | 3.11E+00 | 5.18E+00 | pCi/L | | 3257.43 | ml | 08/08/06 14:40 | 08/10/06 | 8174 | Sec | U |

Flag Values

U = Compound/Analyte not detected or less than 3 sigma
 + = Activity concentration exceeds MDC and 3 sigma; peak identified (gamma only)
 U* = Compound/Analyte not detected. Peak not identified, but forced activity concentration exceeds MDC and 3 sigma
 High = Activity concentration exceeds customer reporting value
 Spec = MDC exceeds customer technical specification
 L = Low recovery
 H = High recovery

Bolded text indicates reportable value.

No = Peak not identified in gamma spectrum
 Yes = Peak identified in gamma spectrum
 **** Results are reported on an as received basis unless otherwise noted

MDC - Minimum Detectable Concentration

Report of Analysis

08/14/06 15:57

L29515

Conestoga-Rovers & Associates

EX001-3ESPDRES-06

Kathy Shaw

| Sample ID: WG-DN-MW-DN-1201-080806-GL-006 | | | | | | | | | | Matrix: Ground Water | | | | (WG) |
|--|------|-----------------|---------------------|-----------------|-------|-------|----------------|---------------|----------------|---------------------------------|------------|-------------|-------------|------|
| Station: | | | | | | | | | | Volume: | | | | |
| Description: | | | | | | | | | | % Moisture: | | | | |
| LIMS Number: L29515-6 | | | | | | | | | | Collect Start: 08/08/2006 16:50 | | | | |
| | | | | | | | | | | Collect Stop: | | | | |
| | | | | | | | | | | Receive Date: 08/09/2006 | | | | |
| Radionuclide | SOP# | Activity Conc | Uncertainty 2 Sigma | MDC | Units | Run # | Aliquot Volume | Aliquot Units | Reference Date | Count Date | Count Time | Count Units | Flag Values | |
| H-3 (DIST) | 2010 | 1.11E+01 | 1.11E+02 | 1.82E+02 | pCi/L | | 10 | ml | | 08/11/06 | 60 | M | U | |
| TOTAL SR | 2018 | 2.38E-01 | 4.80E-01 | 9.38E-01 | pCi/L | | 450 | ml | 08/08/06 16:50 | 08/14/06 | 120 | M | U | |
| K-40 | 2007 | 1.03E+02 | 5.02E+01 | 3.58E+01 | pCi/L | | 3227.88 | ml | 08/08/06 16:50 | 08/10/06 | 8068 | Sec | + | Yes |
| MN-54 | 2007 | -8.89E-01 | 2.40E+00 | 4.21E+00 | pCi/L | | 3227.88 | ml | 08/08/06 16:50 | 08/10/06 | 8068 | Sec | U | No |
| CO-58 | 2007 | 1.35E+00 | 2.33E+00 | 4.50E+00 | pCi/L | | 3227.88 | ml | 08/08/06 16:50 | 08/10/06 | 8068 | Sec | U | No |
| FE-59 | 2007 | -1.49E+00 | 4.46E+00 | 7.80E+00 | pCi/L | | 3227.88 | ml | 08/08/06 16:50 | 08/10/06 | 8068 | Sec | U | No |
| CO-60 | 2007 | 7.94E-01 | 2.44E+00 | 4.68E+00 | pCi/L | | 3227.88 | ml | 08/08/06 16:50 | 08/10/06 | 8068 | Sec | U | No |
| ZN-65 | 2007 | -3.19E+00 | 5.48E+00 | 7.68E+00 | pCi/L | | 3227.88 | ml | 08/08/06 16:50 | 08/10/06 | 8068 | Sec | U | No |
| NB-95 | 2007 | -1.10E+00 | 2.46E+00 | 4.29E+00 | pCi/L | | 3227.88 | ml | 08/08/06 16:50 | 08/10/06 | 8068 | Sec | U | No |
| ZR-95 | 2007 | -1.89E+00 | 4.07E+00 | 7.10E+00 | pCi/L | | 3227.88 | ml | 08/08/06 16:50 | 08/10/06 | 8068 | Sec | U | No |
| CS-134 | 2007 | -2.91E-01 | 2.53E+00 | 3.77E+00 | pCi/L | | 3227.88 | ml | 08/08/06 16:50 | 08/10/06 | 8068 | Sec | U | No |
| CS-137 | 2007 | -1.96E+00 | 2.50E+00 | 4.24E+00 | pCi/L | | 3227.88 | ml | 08/08/06 16:50 | 08/10/06 | 8068 | Sec | U | No |
| BA-140 | 2007 | -3.47E+00 | 9.88E+00 | 1.66E+01 | pCi/L | | 3227.88 | ml | 08/08/06 16:50 | 08/10/06 | 8068 | Sec | U | No |
| LA-140 | 2007 | 7.11E-01 | 2.84E+00 | 5.64E+00 | pCi/L | | 3227.88 | ml | 08/08/06 16:50 | 08/10/06 | 8068 | Sec | U | No |

Flag Values

U = Compound/Analyte not detected or less than 3 sigma
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 U* = Compound/Analyte not detected. Peak not identified, but forced activity concentration exceeds MDC and 3 sigma
 High = Activity concentration exceeds customer reporting value
 Spec = MDC exceeds customer technical specification
 L = Low recovery
 H = High recovery

Bolded text indicates reportable value.

No = Peak not identified in gamma spectrum
 Yes = Peak identified in gamma spectrum
 **** Results are reported on an as received basis unless otherwise noted
 MDC - Minimum Detectable Concentration

Report of Analysis

08/14/06 15:57

L29515

Conestoga-Rovers & Associates

EX001-3ESPDRES-06

Kathy Shaw

| Sample ID: WG-DN-MW-DN-120S-080806-GL-007 | | | | Collect Start: 08/08/2006 16:10 | | | | Matrix: Ground Water | | | | (WG) | | | |
|---|------|---------------|---------------------|---------------------------------|-------|-------|----------------|----------------------|----------------|------------|------------|-------------|-------------|--|--|
| Station: | | | | Collect Stop: | | | | Volume: | | | | | | | |
| Description: | | | | Receive Date: 08/09/2006 | | | | % Moisture: | | | | | | | |
| LIMS Number: L29515-7 | | | | | | | | | | | | | | | |
| Radionuclide | SOP# | Activity Conc | Uncertainty 2 Sigma | MDC | Units | Run # | Aliquot Volume | Aliquot Units | Reference Date | Count Date | Count Time | Count Units | Flag Values | | |
| H-3 (DIST) | 2010 | 1.32E+02 | 1.18E+02 | 1.81E+02 | pCi/L | | 10 | ml | | 08/11/06 | 60 | M | U | | |
| TOTAL SR | 2018 | 4.02E-01 | 4.79E-01 | 9.02E-01 | pCi/L | | 450 | ml | 08/08/06 16:10 | 08/14/06 | 120 | M | U | | |
| MN-54 | 2007 | 6.00E-03 | 2.10E+00 | 3.42E+00 | pCi/L | | 2852.81 | ml | 08/08/06 16:10 | 08/10/06 | 28800 | Sec | U | | |
| CO-58 | 2007 | 1.04E+00 | 2.05E+00 | 3.46E+00 | pCi/L | | 2852.81 | ml | 08/08/06 16:10 | 08/10/06 | 28800 | Sec | U | | |
| FE-59 | 2007 | -3.77E+00 | 4.07E+00 | 6.03E+00 | pCi/L | | 2852.81 | ml | 08/08/06 16:10 | 08/10/06 | 28800 | Sec | U | | |
| CO-60 | 2007 | -3.85E-01 | 2.06E+00 | 3.38E+00 | pCi/L | | 2852.81 | ml | 08/08/06 16:10 | 08/10/06 | 28800 | Sec | U | | |
| ZN-65 | 2007 | -1.17E+01 | 5.07E+00 | 6.69E+00 | pCi/L | | 2852.81 | ml | 08/08/06 16:10 | 08/10/06 | 28800 | Sec | U | | |
| NB-95 | 2007 | 4.09E-01 | 2.03E+00 | 3.36E+00 | pCi/L | | 2852.81 | ml | 08/08/06 16:10 | 08/10/06 | 28800 | Sec | U | | |
| ZR-95 | 2007 | -2.84E-01 | 3.43E+00 | 5.60E+00 | pCi/L | | 2852.81 | ml | 08/08/06 16:10 | 08/10/06 | 28800 | Sec | U | | |
| CS-134 | 2007 | 2.74E+00 | 2.20E+00 | 3.46E+00 | pCi/L | | 2852.81 | ml | 08/08/06 16:10 | 08/10/06 | 28800 | Sec | U | | |
| CS-137 | 2007 | -1.50E-01 | 2.24E+00 | 3.68E+00 | pCi/L | | 2852.81 | ml | 08/08/06 16:10 | 08/10/06 | 28800 | Sec | U | | |
| BA-140 | 2007 | 3.24E+00 | 7.91E+00 | 1.34E+01 | pCi/L | | 2852.81 | ml | 08/08/06 16:10 | 08/10/06 | 28800 | Sec | U | | |
| LA-140 | 2007 | -8.37E-03 | 2.35E+00 | 3.88E+00 | pCi/L | | 2852.81 | ml | 08/08/06 16:10 | 08/10/06 | 28800 | Sec | U | | |

Flag Values

U = Compound/Analyte not detected or less than 3 sigma
 + = Activity concentration exceeds MDC and 3 sigma; peak identified (gamma only)
 U* = Compound/Analyte not detected. Peak not identified, but forced activity concentration exceeds MDC and 3 sigma
 High = Activity concentration exceeds customer reporting value
 Spec = MDC exceeds customer technical specification
 L = Low recovery
 H = High recovery

Bolded text indicates reportable value.

No = Peak not identified in gamma spectrum
 Yes = Peak identified in gamma spectrum
 **** Results are reported on an as received basis unless otherwise noted

MDC - Minimum Detectable Concentration

QC Results Summary

QC Summary Report

for L29515

8/14/2006 4:00:17PM



H-3 (DIST)

Method Blank Summary

| <u>TBE Sample ID</u> | <u>Radionuclide</u> | <u>Matrix</u> | <u>Count Date/Time</u> | <u>Blank Result</u> | <u>Units</u> | <u>Qualifier</u> |
|----------------------|---------------------|---------------|------------------------|---------------------|--------------|------------------|
| WG4302-1 | H-3 (DIST) | WO | 08/10/2006 17:02 | < 1.810E+00 | pCi/Total | U P |

LCS Sample Summary

| <u>TBE Sample ID</u> | <u>Radionuclide</u> | <u>Matrix</u> | <u>Count Date/Time</u> | <u>Spike Value</u> | <u>LCS Result</u> | <u>Units</u> | <u>Spike Recovery</u> | <u>Range</u> | <u>Qualifier</u> |
|----------------------|---------------------|---------------|------------------------|--------------------|-------------------|--------------|-----------------------|--------------|------------------|
| WG4302-2 | H-3 (DIST) | WO | 08/10/2006 18:06 | 5.05E+002 | 5.830E+02 | pCi/Total | 115.5 | 70-130 | U P |

Spike ID: 3H-041706-1
Spike conc: 5.05E+002
Spike Vol: 1.00E+000

Duplicate Summary

| <u>TBE Sample ID</u> | <u>Radionuclide</u> | <u>Matrix</u> | <u>Count Date/Time</u> | <u>Original Result</u> | <u>DUP Result</u> | <u>Units</u> | <u>RPD</u> | <u>Range</u> | <u>Qualifier</u> |
|----------------------|---------------------|---------------|------------------------|------------------------|-------------------|--------------|------------|--------------|------------------|
| WG4302-3 L29515-1 | H-3 (DIST) | WG | 08/10/2006 18:23 | < 1.790E+02 | < 1.810E+02 | pCi/L | | <30 | ** NE |

+ Positive Result
U Compound/analyte was analyzed, peak not identified and/or not detected above MDC
* < 5 times the MDC are not evaluated
** Nuclide not detected
*** Spiking level < 5 times activity
P Pass
F Fail
NE Not evaluated

QC Summary Report

for L29515

8/14/2006 4:00:17PM



TOTAL SR

Method Blank Summary

| <u>TBE Sample ID</u> | <u>Radionuclide</u> | <u>Matrix</u> | <u>Count Date/Time</u> | <u>Blank Result</u> | <u>Units</u> | <u>Qualifier</u> | <u>P/F</u> |
|----------------------|---------------------|---------------|------------------------|---------------------|--------------|------------------|------------|
| WG4309-1 | TOTAL SR | WO | 08/14/2006 16:05 | < 7.930E-01 | pCi/Total | U | P |

LCS Sample Summary

| <u>TBE Sample ID</u> | <u>Radionuclide</u> | <u>Matrix</u> | <u>Count Date/Time</u> | <u>Spike Value</u> | <u>LCS Result</u> | <u>Units</u> | <u>Spike Recovery</u> | <u>Range</u> | <u>Qualifier</u> | <u>P/F</u> |
|----------------------|---------------------|---------------|------------------------|--------------------|-------------------|--------------|-----------------------|--------------|------------------|------------|
| WG4309-2 | TOTAL SR | WO | 08/14/2006 16:05 | 5.84E+001 | 6.180E+01 | pCi/Total | 105.9 | 70-130 | + | P |

Spike ID: 90SR-011905
Spike conc: 2.34E+002
Spike Vol: 2.50E-001

Duplicate Summary

| <u>TBE Sample ID</u> | <u>Radionuclide</u> | <u>Matrix</u> | <u>Count Date/Time</u> | <u>Original Result</u> | <u>DUP Result</u> | <u>Units</u> | <u>RPD</u> | <u>Range</u> | <u>Qualifier</u> | <u>P/F</u> |
|----------------------|---------------------|---------------|------------------------|------------------------|-------------------|--------------|------------|--------------|------------------|------------|
| WG4309-3 L29515-1 | TOTAL SR | WG | 08/14/2006 16:05 | < 1.460E+00 | < 1.320E+00 | pCi/L | | <30 | ** | NE |

+ Positive Result
U Compound/analyte was analyzed, peak not identified and/or not detected above MDC
* < 5 times the MDC are not evaluated
** Nuclide not detected
*** Spiking level < 5 times activity
P Pass
F Fail
NE Not evaluated

Raw Data


| | | | | | | | |
|--------------------------------|--------------|-------------------------------------|---------|-----------------------------------|-----------|--------|--|
| Work Order: <u>L29515</u> | | Customer: <u>Exelon</u> | | Project : <u>EX001-3ESPDRS-06</u> | | | |
| Nuclide: <u>H-3 (DIST)</u> | | Reference | | Volume/ | | | |
| Sample ID | Run Analysis | Date/time | Aliquot | Scavenge | Milking | Mount | |
| Client ID | # | | | Date/time | Date/time | Weight | |
| L29515-1 | H-3 DIST | | 10 ml | | | 0 | |
| WG-DN-MW-DN-122I-080806-GL-001 | | Activity: -5.89E+01 Error: 1.05E+02 | | MDC: 1.79E+02 * | | | |
| L29515-2 | H-3 DIST | | 10 ml | | | 0 | |
| WG-DN-MW-DN-122I-080806-GL-002 | | Activity: -5.93E+01 Error: 1.06E+02 | | MDC: 1.81E+02 * | | | |
| L29515-3 | H-3 DIST | | 10 ml | | | 0 | |
| WG-DN-MW-DN-121I-080806-GL-003 | | Activity: 7.54E+01 Error: 1.16E+02 | | MDC: 1.82E+02 * | | | |
| L29515-4 | H-3 DIST | | 10 ml | | | 0 | |
| WG-DN-MW-DN-123I-080806-GL-004 | | Activity: -2.71E+01 Error: 1.11E+02 | | MDC: 1.86E+02 * | | | |
| L29515-5 | H-3 DIST | | 10 ml | | | 0 | |
| RB-DN-MW-DN-120I-080806-GL-005 | | Activity: -5.69E+01 Error: 1.05E+02 | | MDC: 1.8E+02 * | | | |
| L29515-6 | H-3 DIST | | 10 ml | | | 0 | |
| WG-DN-MW-DN-120I-080806-GL-006 | | Activity: 1.11E+01 Error: 1.11E+02 | | MDC: 1.82E+02 * | | | |
| L29515-7 | H-3 DIST | | 10 ml | | | 0 | |
| WG-DN-MW-DN-120S-080806-GL-007 | | Activity: 1.32E+02 Error: 1.18E+02 | | MDC: 1.81E+02 * | | | |

| Sample ID | Run Analysis | Date/time | Aliquot | Scavenge | Milking | Mount | Recovery | Count Date/time | Counter ID | Total counts | Sample dt (min) | Bkg counts | Bkg dt (min) | Eff. Factor | Decay & Ingrowth Analyst |
|--------------------------------|--------------|-----------|---------|----------|---------|-------|----------|-----------------|------------|--------------|-----------------|------------|--------------|-------------|--------------------------|
| L29515-1 | H-3 DIST | | 10 ml | | | 0 | | 10-aug-06 19:27 | LS7 | 96 | 60 | 1.87 | 60 | .207 | DW |
| WG-DN-MW-DN-122I-080806-GL-001 | | | | | | 0 | | 10-aug-06 20:31 | LS7 | 96 | 60 | 1.87 | 60 | .205 | DW |
| L29515-2 | H-3 DIST | | 10 ml | | | 0 | | 10-aug-06 21:34 | LS7 | 133 | 60 | 1.87 | 60 | .203 | DW |
| WG-DN-MW-DN-121I-080806-GL-003 | | | | | | 0 | | 10-aug-06 22:38 | LS7 | 105 | 60 | 1.87 | 60 | .2 | DW |
| L29515-4 | H-3 DIST | | 10 ml | | | 0 | | 10-aug-06 23:41 | LS7 | 97 | 60 | 1.87 | 60 | .206 | DW |
| WG-DN-MW-DN-123I-080806-GL-004 | | | | | | 0 | | 11-aug-06 00:45 | LS7 | 115 | 60 | 1.87 | 60 | .203 | DW |
| L29515-5 | H-3 DIST | | 10 ml | | | 0 | | 11-aug-06 01:48 | LS7 | 148 | 60 | 1.87 | 60 | .205 | DW |

Page: 2

Project : EX001-3ESPDRES-06Project : EX001-3ESPDRES-06

| NUCLIDE: SK-70 (FAS7) | | | | | | | | | | PROJECT : SA001-255FRA03-00 | | | | | | | | | |
|--|--------------|-----------|--------------------|-----------------------|----------------------|-----------------|----------|--------------------|---------------|-----------------------------|-------------------|---------------|----------------|----------------|-------------------------------|---------|--|--|--|
| Sample ID | Run Analysis | Reference | Volume/ Aliquot | Scavange Date/time | Milking Date/time | Mount Weight | Recovery | Count Date/time | Counter ID | Total counts | Sample dt(min) | Bkg counts | Bkg dt(min) | Eff. Factor | Decay & Ingrowth Factor | Analyst | | | |
| L29515-1 | TOTAL SR | 08-aug-06 | 450 ml | 14-aug-06 09:15 | | 0 | 71.43 | 14-aug-06 16:08 | Y1A | 67 | 120 | 279 | 400 | .341 | 1 | LCB | | | |
| WG-DN-MW-DN-122I-080806-GL-001 | | | | | | | | | | | | | | | | | | | |
| Activity: -.5.73E-01 Error: 6.58E-01 MDC: 1.46E+00 * | | | | | | | | | | | | | | | | | | | |
| L29515-2 | TOTAL SR | 08-aug-06 | 450 ml | 14-aug-06 09:15 | | 0 | 70.88 | 14-aug-06 16:08 | Y1B | 100 | 120 | 279 | 400 | .351 | 1 | LCB | | | |
| WG-DN-MW-DN-122S-080806-GL-002 | | | | | | | | | | | | | | | | | | | |
| Activity: 5.47E-01 Error: 7.5E-01 MDC: 1.43E+00 * | | | | | | | | | | | | | | | | | | | |
| L29515-3 | TOTAL SR | 08-aug-06 | 450 ml | 14-aug-06 09:15 | | 0 | 112.09 | 14-aug-06 16:08 | Y1C | 118 | 120 | 300 | 400 | .345 | 1 | LCB | | | |
| WG-DN-MW-DN-121S-080806-GL-003 | | | | | | | | | | | | | | | | | | | |
| Activity: 6.04E-01 Error: 5.19E-01 MDC: 9.53E-01 * | | | | | | | | | | | | | | | | | | | |
| L29515-4 | TOTAL SR | 08-aug-06 | 450 ml | 14-aug-06 09:15 | | 0 | 73.08 | 14-aug-06 16:08 | Y1D | 63 | 120 | 305 | 400 | .362 | 1 | LCB | | | |
| WG-DN-MW-DN-123I-080806-GL-004 | | | | | | | | | | | | | | | | | | | |
| Activity: -.8.99E-01 Error: 6E-01 MDC: 1.41E+00 * | | | | | | | | | | | | | | | | | | | |
| L29515-5 | TOTAL SR | 08-aug-06 | 450 ml | 14-aug-06 09:15 | | 0 | 115.38 | 14-aug-06 16:08 | Y2A | 85 | 120 | 280 | 400 | .349 | 1 | LCB | | | |
| RB-DN-MW-DN-120I-080806-GL-005 | | | | | | | | | | | | | | | | | | | |
| Activity: 2.07E-02 Error: 4.36E-01 MDC: 8.86E-01 * | | | | | | | | | | | | | | | | | | | |
| L29515-6 | TOTAL SR | 08-aug-06 | 450 ml | 14-aug-06 09:15 | | 0 | 113.19 | 14-aug-06 16:08 | Y2B | 106 | 120 | 315 | 400 | .356 | 1 | LCB | | | |
| WG-DN-MW-DN-120I-080806-GL-006 | | | | | | | | | | | | | | | | | | | |
| Activity: 2.38E-01 Error: 4.8E-01 MDC: 9.38E-01 * | | | | | | | | | | | | | | | | | | | |
| L29515-7 | TOTAL SR | 08-aug-06 | 450 ml | 14-aug-06 09:15 | | 0 | 110.44 | 14-aug-06 16:08 | Y2C | 99 | 120 | 268 | 400 | .35 | 1 | LCB | | | |
| WG-DN-MW-DN-120S-080806-GL-007 | | | | | | | | | | | | | | | | | | | |
| Activity: 4.02E-01 Error: 4.79E-01 MDC: 9.02E-01 * | | | | | | | | | | | | | | | | | | | |

Sec. Review: Analyst: LIMS: 

=====

VAX/VMS Teledyne Brown Eng. Laboratory Gamma Report: 10-AUG-2006 17:55:32.59

TBE04 P-40312B HpGe ***** Aquisition Date/Time: 10-AUG-2006 15:38:05.28

LIMS No., Customer Name, Client ID: WG L29515-1 DRESDEN

| | | | |
|---------------|-----------------|---------------|-----------------------|
| Sample ID | : 04L29515-1 | Smple Date: | 8-AUG-2006 08:50:00.0 |
| Sample Type | : WG | Geometry | : 043L082004 |
| Quantity | : 3.20630E+00 L | BKGFILE | : 04BG072806MT |
| Start Channel | : 90 | Energy Tol | : 1.00000 |
| End Channel | : 4090 | Real Time | : 0 02:17:19.18 |
| MDA Constant | : 0.00 | Pk Srch Sens: | 5.00000 |
| | | Live time | : 0 02:17:17.70 |
| | | Library Used: | LIBD |

| Pk | It | Energy | Area | Bkgnd | FWHM | Channel | %Eff | Cts/Sec | %Err | Fit |
|----|----|----------|------|-------|-------|---------|----------|----------|-------|----------|
| 1 | 1 | 66.49* | 63 | 235 | 1.43 | 133.87 | 6.70E-01 | 7.62E-03 | 45.2 | 1.03E+00 |
| 2 | 1 | 140.10* | 38 | 191 | 1.43 | 281.12 | 2.04E+00 | 4.59E-03 | 66.8 | 1.95E+00 |
| 3 | 1 | 198.95* | 5 | 136 | 0.78 | 398.85 | 1.86E+00 | 5.46E-04 | 516.7 | 5.99E+00 |
| 4 | 1 | 238.54* | 16 | 106 | 0.87 | 478.05 | 1.68E+00 | 1.92E-03 | 121.7 | 2.82E+00 |
| 5 | 1 | 295.05* | 22 | 106 | 1.44 | 591.09 | 1.46E+00 | 2.64E-03 | 86.8 | 3.31E+00 |
| 6 | 1 | 352.00* | 69 | 71 | 0.84 | 704.99 | 1.28E+00 | 8.40E-03 | 25.0 | 5.32E-01 |
| 7 | 1 | 595.73 | 33 | 42 | 1.72 | 1192.49 | 8.63E-01 | 4.00E-03 | 32.5 | 1.42E+01 |
| 8 | 1 | 609.54* | 90 | 45 | 2.23 | 1220.10 | 8.48E-01 | 1.09E-02 | 20.8 | 1.89E+00 |
| 9 | 1 | 847.30* | 14 | 41 | 2.24 | 1695.59 | 6.58E-01 | 1.73E-03 | 105.3 | 4.97E-01 |
| 10 | 1 | 1331.47* | 38 | 28 | 11.04 | 2663.72 | 4.61E-01 | 4.56E-03 | 36.6 | 1.54E+00 |
| 11 | 1 | 1460.45* | 47 | 6 | 2.93 | 2921.57 | 4.30E-01 | 5.67E-03 | 23.2 | 9.32E-01 |

Flag: "*" = Peak area was modified by background subtraction

Nuclide Line Activity Report

Nuclide Type: natural

| Nuclide | Energy | Area | %Abn | %Eff | Uncorrected pCi/L | Decay Corr pCi/L | 2-Sigma %Error |
|---------|---------|-------|--------|-----------|----------------------|---------------------|-------------------|
| K-40 | 1460.81 | 47 | 10.67* | 4.297E-01 | 1.042E+02 | 1.042E+02 | 46.37 |
| TH-228 | 238.63 | 16 | 44.60* | 1.680E+00 | 2.161E+00 | 2.166E+00 | 243.32 |
| | 240.98 | ----- | 3.95 | 1.669E+00 | ----- | Line Not Found | ----- |

Flag: "*" = Keyline

Summary of Nuclide Activity

Page : 2

Sample ID : 04L29515-1

Acquisition date : 10-AUG-2006 15:38:05

| | | |
|---|----|--------|
| Total number of lines in spectrum | 11 | |
| Number of unidentified lines | 9 | |
| Number of lines tentatively identified by NID | 2 | 18.18% |

Nuclide Type : natural

| Nuclide | Hlife | Decay | Uncorrected pCi/L | Decay Corr pCi/L | Decay Corr 2-Sigma Error | 2-Sigma %Error | Flags |
|------------------|-----------|-------|----------------------|---------------------|-----------------------------|-------------------|-------|
| K-40 | 1.28E+09Y | 1.00 | 1.042E+02 | 1.042E+02 | 0.483E+02 | 46.37 | |
| TH-228 | 1.91Y | 1.00 | 2.161E+00 | 2.166E+00 | 5.270E+00 | 243.32 | |
| | | | ----- | ----- | | | |
| Total Activity : | | | 1.064E+02 | 1.064E+02 | | | |

| | | |
|------------------------|-----------|-----------|
| Grand Total Activity : | 1.064E+02 | 1.064E+02 |
|------------------------|-----------|-----------|

Flags: "K" = Keyline not found
 "E" = Manually edited

"M" = Manually accepted
 "A" = Nuclide specific abn. limit

Unidentified Energy Lines

Page : 3

Sample ID : 04L29515-1

Acquisition date : 10-AUG-2006 15:38:05

| It | Energy | Area | Bkgnd | FWHM | Channel | Left | Pw | Cts/Sec | %Err | %Eff | Flags |
|----|---------|------|-------|-------|---------|------|----|----------|------|----------|-------|
| 1 | 66.49 | 63 | 235 | 1.43 | 133.87 | 130 | 8 | 7.62E-03 | 90.5 | 6.70E-01 | |
| 1 | 140.10 | 38 | 191 | 1.43 | 281.12 | 277 | 8 | 4.59E-03 | **** | 2.04E+00 | |
| 1 | 198.95 | 5 | 136 | 0.78 | 398.85 | 395 | 9 | 5.46E-04 | **** | 1.86E+00 | |
| 1 | 295.05 | 22 | 106 | 1.44 | 591.09 | 588 | 8 | 2.64E-03 | **** | 1.46E+00 | |
| 1 | 352.00 | 69 | 71 | 0.84 | 704.99 | 701 | 7 | 8.40E-03 | 49.9 | 1.28E+00 | |
| 1 | 595.73 | 33 | 42 | 1.72 | 1192.49 | 1188 | 8 | 4.00E-03 | 65.1 | 8.63E-01 | |
| 1 | 609.54 | 90 | 45 | 2.23 | 1220.10 | 1212 | 15 | 1.09E-02 | 41.6 | 8.48E-01 | |
| 1 | 847.30 | 14 | 41 | 2.24 | 1695.59 | 1687 | 14 | 1.73E-03 | **** | 6.58E-01 | |
| 1 | 1331.47 | 38 | 28 | 11.04 | 2663.72 | 2658 | 21 | 4.56E-03 | 73.2 | 4.61E-01 | |

Flags: "T" = Tentatively associated

Summary of Nuclide Activity

| | |
|---|----------|
| Total number of lines in spectrum | 11 |
| Number of unidentified lines | 9 |
| Number of lines tentatively identified by NID | 2 18.18% |

Nuclide Type : natural

| Nuclide | Hlife | Decay | Wtd Mean Uncorrected pCi/L | Wtd Mean Decay Corr pCi/L | Decay Corr 2-Sigma Error | 2-Sigma %Error | Flags |
|------------------|-----------|-------|----------------------------------|---------------------------------|-----------------------------|-------------------|-------|
| K-40 | 1.28E+09Y | 1.00 | 1.042E+02 | 1.042E+02 | 0.483E+02 | 46.37 | |
| TH-228 | 1.91Y | 1.00 | 2.161E+00 | 2.166E+00 | 5.270E+00 | 243.32 | |
| Total Activity : | | | 1.064E+02 | 1.064E+02 | | | |

Grand Total Activity : 1.064E+02 1.064E+02

Flags: "K" = Keyline not found "M" = Manually accepted
 "E" = Manually edited "A" = Nuclide specific abn. limit

Interference Report

No interference correction performed

Combined Activity-MDA Report

---- Identified Nuclides ----

| Nuclide | Activity (pCi/L) | Act error | MDA (pCi/L) | MDA error | Act/MDA |
|---------|---------------------|-----------|----------------|-----------|---------|
| K-40 | 1.042E+02 | 4.834E+01 | 4.055E+01 | 0.000E+00 | 2.570 |
| TH-228 | 2.166E+00 | 5.270E+00 | 6.745E+00 | 0.000E+00 | 0.321 |

---- Non-Identified Nuclides ----

| Nuclide | Key-Line Activity (pCi/L) | K.L. Ided | Act error | MDA (pCi/L) | MDA error | Act/MDA |
|---------|---------------------------------|--------------|-----------|----------------|-----------|---------|
|---------|---------------------------------|--------------|-----------|----------------|-----------|---------|

| | | | | | |
|---------|------------|-----------|-----------|-----------|--------|
| BE-7 | -6.344E-01 | 2.073E+01 | 3.388E+01 | 0.000E+00 | -0.019 |
| NA-24 | 3.547E+01 | 3.817E+01 | 7.169E+01 | 0.000E+00 | 0.495 |
| CR-51 | 8.664E+00 | 1.878E+01 | 3.281E+01 | 0.000E+00 | 0.264 |
| MN-54 | -4.710E-01 | 2.398E+00 | 3.872E+00 | 0.000E+00 | -0.122 |
| CO-57 | -1.989E-01 | 1.933E+00 | 3.215E+00 | 0.000E+00 | -0.062 |
| CO-58 | -1.723E+00 | 2.370E+00 | 3.556E+00 | 0.000E+00 | -0.485 |
| FE-59 | 3.321E+00 | 5.037E+00 | 8.903E+00 | 0.000E+00 | 0.373 |
| CO-60 | -1.214E+00 | 3.341E+00 | 5.754E+00 | 0.000E+00 | -0.211 |
| ZN-65 | -6.745E+00 | 6.597E+00 | 9.184E+00 | 0.000E+00 | -0.735 |
| SE-75 | -1.355E+00 | 3.201E+00 | 4.925E+00 | 0.000E+00 | -0.275 |
| SR-85 | -7.466E+00 | 3.444E+00 | 4.747E+00 | 0.000E+00 | -1.573 |
| Y-88 | -2.226E-01 | 3.144E+00 | 4.999E+00 | 0.000E+00 | -0.045 |
| NB-94 | -1.208E+00 | 2.222E+00 | 3.500E+00 | 0.000E+00 | -0.345 |
| NB-95 | 9.268E-02 | 2.509E+00 | 4.201E+00 | 0.000E+00 | 0.022 |
| ZR-95 | 2.777E+00 | 4.019E+00 | 7.260E+00 | 0.000E+00 | 0.383 |
| MO-99 | 2.907E+01 | 3.132E+01 | 5.781E+01 | 0.000E+00 | 0.503 |
| RU-103 | -2.760E+00 | 2.675E+00 | 3.932E+00 | 0.000E+00 | -0.702 |
| RU-106 | 8.779E-01 | 2.392E+01 | 3.854E+01 | 0.000E+00 | 0.023 |
| AG-110m | -2.608E-01 | 2.487E+00 | 3.920E+00 | 0.000E+00 | -0.067 |
| SN-113 | -1.794E+00 | 3.076E+00 | 4.865E+00 | 0.000E+00 | -0.369 |
| SB-124 | -1.741E+00 | 2.636E+00 | 3.272E+00 | 0.000E+00 | -0.532 |
| SB-125 | 2.997E+00 | 6.614E+00 | 1.139E+01 | 0.000E+00 | 0.263 |
| TE-129M | -1.743E+00 | 2.866E+01 | 4.687E+01 | 0.000E+00 | -0.037 |
| I-131 | -4.351E-01 | 3.015E+00 | 4.990E+00 | 0.000E+00 | -0.087 |
| BA-133 | 7.049E-01 | 3.428E+00 | 5.182E+00 | 0.000E+00 | 0.136 |
| CS-134 | 1.047E+00 | 2.334E+00 | 3.536E+00 | 0.000E+00 | 0.296 |
| CS-136 | 1.124E+00 | 2.477E+00 | 4.352E+00 | 0.000E+00 | 0.258 |
| CS-137 | -2.188E+00 | 2.868E+00 | 4.145E+00 | 0.000E+00 | -0.528 |
| CE-139 | -2.111E+00 | 2.156E+00 | 3.329E+00 | 0.000E+00 | -0.634 |
| BA-140 | -9.902E-01 | 9.685E+00 | 1.556E+01 | 0.000E+00 | -0.064 |
| LA-140 | -4.387E-01 | 3.395E+00 | 5.418E+00 | 0.000E+00 | -0.081 |
| CE-141 | 1.777E+00 | 3.543E+00 | 6.042E+00 | 0.000E+00 | 0.294 |
| CE-144 | 7.323E+00 | 1.574E+01 | 2.688E+01 | 0.000E+00 | 0.272 |
| EU-152 | 3.371E-01 | 7.011E+00 | 1.182E+01 | 0.000E+00 | 0.029 |
| EU-154 | 7.822E-01 | 4.263E+00 | 7.203E+00 | 0.000E+00 | 0.109 |
| RA-226 | 1.625E+01 | 5.889E+01 | 1.004E+02 | 0.000E+00 | 0.162 |
| AC-228 | -1.732E+00 | 1.048E+01 | 1.781E+01 | 0.000E+00 | -0.097 |
| TH-232 | -1.730E+00 | 1.047E+01 | 1.780E+01 | 0.000E+00 | -0.097 |
| U-235 | 1.255E+00 | 1.825E+01 | 2.725E+01 | 0.000E+00 | 0.046 |
| U-238 | 5.839E+01 | 3.037E+02 | 5.074E+02 | 0.000E+00 | 0.115 |
| AM-241 | -7.693E+00 | 2.292E+01 | 3.504E+01 | 0.000E+00 | -0.220 |

```

A,04L29515-1      ,08/10/2006 17:55,08/08/2006 08:50,    3.206E+00,WG L29515-1 DR
B,04L29515-1      ,LIBD      ,08/07/2006 09:38,043L082004
C,K-40      ,YES,    1.042E+02,    4.834E+01,    4.055E+01,,    2.570
C,TH-228    ,YES,    2.166E+00,    5.270E+00,    6.745E+00,,    0.321
C,BE-7      ,NO ,    -6.344E-01,    2.073E+01,    3.388E+01,,   -0.019
C,NA-24     ,NO ,    3.547E+01,    3.817E+01,    7.169E+01,,    0.495
C,CR-51     ,NO ,    8.664E+00,    1.878E+01,    3.281E+01,,    0.264
C,MN-54     ,NO ,   -4.710E-01,    2.398E+00,    3.872E+00,,   -0.122
C,CO-57     ,NO ,   -1.989E-01,    1.933E+00,    3.215E+00,,   -0.062
C,CO-58     ,NO ,   -1.723E+00,    2.370E+00,    3.556E+00,,   -0.485
C,FE-59     ,NO ,    3.321E+00,    5.037E+00,    8.903E+00,,    0.373
C,CO-60     ,NO ,   -1.214E+00,    3.341E+00,    5.754E+00,,   -0.211
C,ZN-65     ,NO ,   -6.745E+00,    6.597E+00,    9.184E+00,,   -0.735
C,SE-75     ,NO ,   -1.355E+00,    3.201E+00,    4.925E+00,,   -0.275
C,SR-85     ,NO ,   -7.466E+00,    3.444E+00,    4.747E+00,,   -1.573
C,Y-88      ,NO ,   -2.226E-01,    3.144E+00,    4.999E+00,,   -0.045
C,NB-94     ,NO ,   -1.208E+00,    2.222E+00,    3.500E+00,,   -0.345
C,NB-95     ,NO ,    9.268E-02,    2.509E+00,    4.201E+00,,    0.022
C,ZR-95     ,NO ,    2.777E+00,    4.019E+00,    7.260E+00,,    0.383
C,MO-99     ,NO ,    2.907E+01,    3.132E+01,    5.781E+01,,    0.503
C,RU-103    ,NO ,   -2.760E+00,    2.675E+00,    3.932E+00,,   -0.702
C,RU-106    ,NO ,    8.779E-01,    2.392E+01,    3.854E+01,,    0.023
C,AG-110m   ,NO ,   -2.608E-01,    2.487E+00,    3.920E+00,,   -0.067
C,SN-113    ,NO ,   -1.794E+00,    3.076E+00,    4.865E+00,,   -0.369
C,SB-124    ,NO ,   -1.741E+00,    2.636E+00,    3.272E+00,,   -0.532
C,SB-125    ,NO ,    2.997E+00,    6.614E+00,    1.139E+01,,    0.263
C,TE-129M   ,NO ,   -1.743E+00,    2.866E+01,    4.687E+01,,   -0.037
C,I-131     ,NO ,   -4.351E-01,    3.015E+00,    4.990E+00,,   -0.087
C,BA-133    ,NO ,    7.049E-01,    3.428E+00,    5.182E+00,,    0.136
C,CS-134    ,NO ,    1.047E+00,    2.334E+00,    3.536E+00,,    0.296
C,CS-136    ,NO ,    1.124E+00,    2.477E+00,    4.352E+00,,    0.258
C,CS-137    ,NO ,   -2.188E+00,    2.868E+00,    4.145E+00,,   -0.528
C,CE-139    ,NO ,   -2.111E+00,    2.156E+00,    3.329E+00,,   -0.634
C,BA-140    ,NO ,   -9.902E-01,    9.685E+00,    1.556E+01,,   -0.064
C,LA-140    ,NO ,   -4.387E-01,    3.395E+00,    5.418E+00,,   -0.081
C,CE-141    ,NO ,    1.777E+00,    3.543E+00,    6.042E+00,,    0.294
C,CE-144    ,NO ,    7.323E+00,    1.574E+01,    2.688E+01,,    0.272
C,EU-152    ,NO ,    3.371E-01,    7.011E+00,    1.182E+01,,    0.029
C,EU-154    ,NO ,    7.822E-01,    4.263E+00,    7.203E+00,,    0.109
C,RA-226    ,NO ,    1.625E+01,    5.889E+01,    1.004E+02,,    0.162
C,AC-228    ,NO ,   -1.732E+00,    1.048E+01,    1.781E+01,,   -0.097
C,TH-232    ,NO ,   -1.730E+00,    1.047E+01,    1.780E+01,,   -0.097
C,U-235     ,NO ,    1.255E+00,    1.825E+01,    2.725E+01,,    0.046
C,U-238     ,NO ,    5.839E+01,    3.037E+02,    5.074E+02,,    0.115
C,AM-241    ,NO ,   -7.693E+00,    2.292E+01,    3.504E+01,,   -0.220

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Sec. Review: Analyst: kes LIMS: ✓

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VAX/VMS Teledyne Brown Eng. Laboratory Gamma Report: 10-AUG-2006 13:38:53.74

TBE04 P-40312B HpGe ***** Aquisition Date/Time: 10-AUG-2006 10:31:27.56

LIMS No., Customer Name, Client ID: WG L29515-2 DRESDEN

| | | | |
|---------------|-----------------|---------------|-----------------------|
| Sample ID | : 04L29515-2 | Smple Date: | 8-AUG-2006 10:05:00.0 |
| Sample Type | : WG | Geometry | : 0435L090804 |
| Quantity | : 3.32750E+00 L | BKGFILE | : 04BG072806MT |
| Start Channel | : 90 | Energy Tol | : 1.00000 |
| End Channel | : 4090 | Pk Srch Sens: | 5.00000 |
| MDA Constant | : 0.00 | Library Used: | LIBD |
| | | Real Time | : 0 03:07:22.03 |
| | | Live time | : 0 03:07:19.05 |

| Pk | It | Energy | Area | Bkgnd | FWHM | Channel | %Eff | Cts/Sec | %Err | Fit |
|----|----|----------|------|-------|------|---------|----------|----------|------|----------|
| 1 | 3 | 74.85* | 137 | 510 | 0.85 | 150.61 | 9.21E-01 | 1.22E-02 | 27.5 | 6.88E-01 |
| 2 | 3 | 77.05* | 385 | 434 | 0.76 | 155.01 | 9.89E-01 | 3.43E-02 | 10.1 | |
| 3 | 1 | 87.24* | 130 | 557 | 0.97 | 175.39 | 1.27E+00 | 1.16E-02 | 32.1 | 4.98E-01 |
| 4 | 1 | 198.28* | 50 | 413 | 1.14 | 397.52 | 1.68E+00 | 4.48E-03 | 69.0 | 1.63E+00 |
| 5 | 2 | 238.74* | 119 | 320 | 1.26 | 478.45 | 1.52E+00 | 1.06E-02 | 28.5 | 1.08E+00 |
| 6 | 2 | 241.99 | 472 | 264 | 1.13 | 484.96 | 1.51E+00 | 4.20E-02 | 7.4 | |
| 7 | 1 | 275.16 | 53 | 177 | 1.22 | 551.30 | 1.39E+00 | 4.69E-03 | 42.4 | 2.65E+00 |
| 8 | 1 | 295.23* | 873 | 345 | 1.04 | 591.45 | 1.32E+00 | 7.76E-02 | 5.4 | 1.93E+00 |
| 9 | 1 | 351.90* | 1565 | 252 | 1.14 | 704.79 | 1.17E+00 | 1.39E-01 | 3.3 | 5.58E-01 |
| 10 | 1 | 609.28* | 1313 | 215 | 1.35 | 1219.57 | 7.73E-01 | 1.17E-01 | 3.7 | 3.58E+00 |
| 11 | 1 | 666.47 | 75 | 104 | 8.23 | 1333.97 | 7.21E-01 | 6.67E-03 | 35.1 | 2.34E+00 |
| 12 | 1 | 768.33 | 150 | 53 | 1.90 | 1537.67 | 6.46E-01 | 1.33E-02 | 13.3 | 3.26E+00 |
| 13 | 1 | 846.07* | 76 | 44 | 5.25 | 1693.12 | 6.00E-01 | 6.73E-03 | 21.9 | 3.46E+00 |
| 14 | 1 | 933.93 | 43 | 82 | 1.44 | 1868.83 | 5.55E-01 | 3.84E-03 | 45.9 | 8.73E-01 |
| 15 | 1 | 1120.11* | 283 | 49 | 1.87 | 2241.11 | 4.81E-01 | 2.52E-02 | 8.4 | 1.08E+00 |
| 16 | 1 | 1154.80 | 59 | 45 | 3.19 | 2310.48 | 4.70E-01 | 5.27E-03 | 29.8 | 8.28E-01 |
| 17 | 1 | 1237.84* | 136 | 38 | 2.68 | 2476.51 | 4.45E-01 | 1.21E-02 | 13.2 | 9.91E-01 |
| 18 | 1 | 1281.45 | 62 | 55 | 1.19 | 2563.70 | 4.33E-01 | 5.56E-03 | 25.9 | 1.15E+01 |
| 19 | 1 | 1377.80 | 105 | 43 | 3.07 | 2756.35 | 4.10E-01 | 9.35E-03 | 17.4 | 1.21E+00 |
| 20 | 1 | 1509.35 | 47 | 37 | 3.26 | 3019.34 | 3.83E-01 | 4.15E-03 | 32.9 | 8.69E-01 |
| 21 | 1 | 1729.68 | 68 | 10 | 2.37 | 3459.80 | 3.48E-01 | 6.01E-03 | 16.1 | 5.92E-01 |
| 22 | 1 | 1764.25* | 255 | 10 | 2.50 | 3528.90 | 3.43E-01 | 2.27E-02 | 7.3 | 1.06E+00 |

Flag: "*" = Peak area was modified by background subtraction

Nuclide Line Activity Report

Nuclide Type: natural

| Nuclide | Energy | Area | %Abn | %Eff | Uncorrected pCi/L | Decay Corr pCi/L | 2-Sigma %Error |
|---------|--------|-------|--------|-----------|----------------------|---------------------|-------------------|
| TH-228 | 238.63 | 119 | 44.60* | 1.520E+00 | 1.265E+01 | 1.267E+01 | 56.93 |
| | 240.98 | ----- | 3.95 | 1.511E+00 | ----- | Line Not Found | ----- |

Flag: "*" = Keyline

Summary of Nuclide Activity

Page : 2

Sample ID : 04L29515-2

Acquisition date : 10-AUG-2006 10:31:27

| | | |
|---|----|-------|
| Total number of lines in spectrum | 22 | |
| Number of unidentified lines | 21 | |
| Number of lines tentatively identified by NID | 1 | 4.55% |

Nuclide Type : natural

| Nuclide | Hlife | Decay | Uncorrected pCi/L | Decay Corr pCi/L | Decay Corr 2-Sigma Error | 2-Sigma %Error | Flags |
|------------------|-------|-------|----------------------|---------------------|-----------------------------|-------------------|-------|
| TH-228 | 1.91Y | 1.00 | 1.265E+01 | 1.267E+01 | 0.721E+01 | 56.93 | |
| Total Activity : | | | 1.265E+01 | 1.267E+01 | | | |

| | | |
|------------------------|-----------|-----------|
| Grand Total Activity : | 1.265E+01 | 1.267E+01 |
|------------------------|-----------|-----------|

Flags: "K" = Keyline not found

"M" = Manually accepted

"E" = Manually edited

"A" = Nuclide specific abn. limit

Unidentified Energy Lines
Sample ID : 04L29515-2

Page : 3
Acquisition date : 10-AUG-2006 10:31:27

| It | Energy | Area | Bkgnd | FWHM | Channel | Left | Pw | Cts/Sec | %Err | %Eff | Flags |
|----|---------|------|-------|------|---------|------|----|----------|------|----------|-------|
| 3 | 74.85 | 137 | 510 | 0.85 | 150.61 | 147 | 13 | 1.22E-02 | 55.1 | 9.21E-01 | |
| 3 | 77.05 | 385 | 434 | 0.76 | 155.01 | 147 | 13 | 3.43E-02 | 20.1 | 9.89E-01 | |
| 1 | 87.24 | 130 | 557 | 0.97 | 175.39 | 172 | 7 | 1.16E-02 | 64.2 | 1.27E+00 | |
| 1 | 198.28 | 50 | 413 | 1.14 | 397.52 | 395 | 7 | 4.48E-03 | **** | 1.68E+00 | |
| 2 | 241.99 | 472 | 264 | 1.13 | 484.96 | 475 | 15 | 4.20E-02 | 14.7 | 1.51E+00 | |
| 1 | 275.16 | 53 | 177 | 1.22 | 551.30 | 549 | 6 | 4.69E-03 | 84.8 | 1.39E+00 | |
| 1 | 295.23 | 873 | 345 | 1.04 | 591.45 | 587 | 11 | 7.76E-02 | 10.8 | 1.32E+00 | |
| 1 | 351.90 | 1565 | 252 | 1.14 | 704.79 | 699 | 13 | 1.39E-01 | 6.7 | 1.17E+00 | |
| 1 | 609.28 | 1313 | 215 | 1.35 | 1219.57 | 1213 | 15 | 1.17E-01 | 7.4 | 7.73E-01 | |
| 1 | 666.47 | 75 | 104 | 8.23 | 1333.97 | 1327 | 19 | 6.67E-03 | 70.2 | 7.21E-01 | |
| 1 | 768.33 | 150 | 53 | 1.90 | 1537.67 | 1532 | 13 | 1.33E-02 | 26.5 | 6.46E-01 | |
| 1 | 846.07 | 76 | 44 | 5.25 | 1693.12 | 1690 | 13 | 6.73E-03 | 43.7 | 6.00E-01 | |
| 1 | 933.93 | 43 | 82 | 1.44 | 1868.83 | 1863 | 13 | 3.84E-03 | 91.8 | 5.55E-01 | |
| 1 | 1120.11 | 283 | 49 | 1.87 | 2241.11 | 2234 | 17 | 2.52E-02 | 16.8 | 4.81E-01 | |
| 1 | 1154.80 | 59 | 45 | 3.19 | 2310.48 | 2301 | 18 | 5.27E-03 | 59.5 | 4.70E-01 | |
| 1 | 1237.84 | 136 | 38 | 2.68 | 2476.51 | 2470 | 15 | 1.21E-02 | 26.5 | 4.45E-01 | |
| 1 | 1281.45 | 62 | 55 | 1.19 | 2563.70 | 2557 | 14 | 5.56E-03 | 51.8 | 4.33E-01 | |
| 1 | 1377.80 | 105 | 43 | 3.07 | 2756.35 | 2747 | 17 | 9.35E-03 | 34.7 | 4.10E-01 | |
| 1 | 1509.35 | 47 | 37 | 3.26 | 3019.34 | 3013 | 15 | 4.15E-03 | 65.7 | 3.83E-01 | |
| 1 | 1729.68 | 68 | 10 | 2.37 | 3459.80 | 3452 | 14 | 6.01E-03 | 32.3 | 3.48E-01 | |
| 1 | 1764.25 | 255 | 10 | 2.50 | 3528.90 | 3519 | 20 | 2.27E-02 | 14.6 | 3.43E-01 | |

Flags: "T" = Tentatively associated

Summary of Nuclide Activity

| | |
|---|---------|
| Total number of lines in spectrum | 22 |
| Number of unidentified lines | 21 |
| Number of lines tentatively identified by NID | 1 4.55% |

Nuclide Type : natural

| Nuclide | Hlife | Decay | Wtd Mean Uncorrected pCi/L | Wtd Mean Decay Corr pCi/L | Decay Corr 2-Sigma Error | 2-Sigma %Error | Flags |
|------------------|-------|-------|----------------------------------|---------------------------------|-----------------------------|-------------------|-------|
| TH-228 | 1.91Y | 1.00 | 1.265E+01 | 1.267E+01 | 0.721E+01 | 56.93 | |
| Total Activity : | | | 1.265E+01 | 1.267E+01 | | | |

Grand Total Activity : 1.265E+01 1.267E+01

Flags: "K" = Keyline not found "M" = Manually accepted
"E" = Manually edited "A" = Nuclide specific abn. limit

Interference Report

No interference correction performed

Combined Activity-MDA Report

---- Identified Nuclides ----

| Activity | Act error | MDA | MDA error | Act/MDA |
|----------|-----------|-----|-----------|---------|
|----------|-----------|-----|-----------|---------|

| Nuclide | (pCi/L) | | (pCi/L) | | |
|---------|-----------|-----------|-----------|-----------|-------|
| TH-228 | 1.267E+01 | 7.215E+00 | 1.069E+01 | 0.000E+00 | 1.185 |

---- Non-Identified Nuclides ----

| Nuclide | Key-Line Activity (pCi/L) | K.L. Ided | Act error | MDA (pCi/L) | MDA error | Act/MDA |
|---------|---------------------------------|--------------|-----------|----------------|-----------|---------|
| BE-7 | -2.602E+01 | | 3.037E+01 | 4.826E+01 | 0.000E+00 | -0.539 |
| NA-24 | -3.907E+01 | | 4.944E+01 | 6.200E+01 | 0.000E+00 | -0.630 |
| K-40 | 3.146E+01 | | 4.765E+01 | 9.047E+01 | 0.000E+00 | 0.348 |
| CR-51 | -9.975E+00 | | 3.201E+01 | 5.205E+01 | 0.000E+00 | -0.192 |
| MN-54 | 8.991E-01 | | 3.582E+00 | 5.971E+00 | 0.000E+00 | 0.151 |
| CO-57 | -1.764E+00 | | 3.426E+00 | 5.655E+00 | 0.000E+00 | -0.312 |
| CO-58 | -3.471E+00 | | 3.691E+00 | 5.683E+00 | 0.000E+00 | -0.611 |
| FE-59 | 5.409E+00 | | 6.806E+00 | 1.190E+01 | 0.000E+00 | 0.455 |
| CO-60 | -6.611E-01 | | 4.057E+00 | 6.920E+00 | 0.000E+00 | -0.096 |
| ZN-65 | 3.996E+01 | | 1.011E+01 | 1.904E+01 | 0.000E+00 | 2.099 |
| SE-75 | -2.685E+00 | | 4.883E+00 | 7.994E+00 | 0.000E+00 | -0.336 |
| SR-85 | 8.731E+00 | | 4.110E+00 | 7.344E+00 | 0.000E+00 | 1.189 |
| Y-88 | 3.973E-01 | | 4.115E+00 | 6.868E+00 | 0.000E+00 | 0.058 |
| NB-94 | -2.721E-01 | | 3.181E+00 | 5.261E+00 | 0.000E+00 | -0.052 |
| NB-95 | 1.617E+01 | | 4.762E+00 | 8.370E+00 | 0.000E+00 | 1.932 |
| ZR-95 | -6.172E+00 | | 6.161E+00 | 9.500E+00 | 0.000E+00 | -0.650 |
| MO-99 | 1.380E+01 | | 4.540E+01 | 7.657E+01 | 0.000E+00 | 0.180 |
| RU-103 | 1.846E+00 | | 3.563E+00 | 6.049E+00 | 0.000E+00 | 0.305 |
| RU-106 | -5.390E+00 | | 3.100E+01 | 4.980E+01 | 0.000E+00 | -0.108 |
| AG-110m | -2.314E+00 | | 3.913E+00 | 5.275E+00 | 0.000E+00 | -0.439 |
| SN-113 | -1.978E+00 | | 4.825E+00 | 7.675E+00 | 0.000E+00 | -0.258 |
| SB-124 | -2.919E+00 | | 4.745E+00 | 6.270E+00 | 0.000E+00 | -0.466 |
| SB-125 | 2.484E+00 | | 1.045E+01 | 1.766E+01 | 0.000E+00 | 0.141 |
| TE-129M | 2.585E+00 | | 4.203E+01 | 7.017E+01 | 0.000E+00 | 0.037 |
| I-131 | 1.708E+00 | | 4.159E+00 | 6.909E+00 | 0.000E+00 | 0.247 |
| BA-133 | 7.228E+00 | | 5.337E+00 | 8.134E+00 | 0.000E+00 | 0.889 |
| CS-134 | 1.041E+01 | | 4.675E+00 | 7.471E+00 | 0.000E+00 | 1.394 |
| CS-136 | 3.086E+00 | | 4.117E+00 | 7.078E+00 | 0.000E+00 | 0.436 |
| CS-137 | 1.103E+00 | | 4.331E+00 | 6.094E+00 | 0.000E+00 | 0.181 |
| CE-139 | 1.708E+00 | | 3.734E+00 | 6.212E+00 | 0.000E+00 | 0.275 |
| BA-140 | -6.214E+00 | | 1.372E+01 | 2.199E+01 | 0.000E+00 | -0.283 |
| LA-140 | -1.373E-01 | | 4.483E+00 | 7.305E+00 | 0.000E+00 | -0.019 |
| CE-141 | 5.660E+00 | | 6.371E+00 | 1.080E+01 | 0.000E+00 | 0.524 |
| CE-144 | -9.073E+00 | | 2.734E+01 | 4.512E+01 | 0.000E+00 | -0.201 |
| EU-152 | 7.060E+00 | | 1.283E+01 | 1.932E+01 | 0.000E+00 | 0.365 |
| EU-154 | -7.700E-01 | | 7.275E+00 | 1.213E+01 | 0.000E+00 | -0.063 |
| RA-226 | 3.162E+01 | | 9.430E+01 | 1.562E+02 | 0.000E+00 | 0.202 |
| AC-228 | -1.120E+01 | | 1.400E+01 | 2.188E+01 | 0.000E+00 | -0.512 |
| TH-232 | -1.120E+01 | | 1.399E+01 | 2.186E+01 | 0.000E+00 | -0.512 |
| U-235 | -3.192E+01 | | 2.897E+01 | 4.667E+01 | 0.000E+00 | -0.684 |
| U-238 | 4.689E+01 | | 4.211E+02 | 7.049E+02 | 0.000E+00 | 0.067 |
| AM-241 | -1.979E+01 | | 3.291E+01 | 5.314E+01 | 0.000E+00 | -0.372 |

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A,04L29515-2      ,08/10/2006 13:38,08/08/2006 10:05,    3.328E+00,WG L29515-2 DR
B,04L29515-2      ,LIBD      ,08/07/2006 09:38,0435L090804
C,TH-228    ,YES,    1.267E+01,    7.215E+00,    1.069E+01,,    1.185
C,BE-7      ,NO ,    -2.602E+01,    3.037E+01,    4.826E+01,,    -0.539
C,NA-24     ,NO ,    -3.907E+01,    4.944E+01,    6.200E+01,,    -0.630
C,K-40      ,NO ,    3.146E+01,    4.765E+01,    9.047E+01,,    0.348
C,CR-51     ,NO ,    -9.975E+00,    3.201E+01,    5.205E+01,,    -0.192
C,MN-54     ,NO ,    8.991E-01,    3.582E+00,    5.971E+00,,    0.151
C,CO-57     ,NO ,    -1.764E+00,    3.426E+00,    5.655E+00,,    -0.312
C,CO-58     ,NO ,    -3.471E+00,    3.691E+00,    5.683E+00,,    -0.611
C,FE-59     ,NO ,    5.409E+00,    6.806E+00,    1.190E+01,,    0.455
C,CO-60     ,NO ,    -6.611E-01,    4.057E+00,    6.920E+00,,    -0.096
C,ZN-65     ,NO ,    3.996E+01,    1.011E+01,    1.904E+01,,    2.099
C,SE-75     ,NO ,    -2.685E+00,    4.883E+00,    7.994E+00,,    -0.336
C,SR-85     ,NO ,    8.731E+00,    4.110E+00,    7.344E+00,,    1.189
C,Y-88      ,NO ,    3.973E-01,    4.115E+00,    6.868E+00,,    0.058
C,NB-94     ,NO ,    -2.721E-01,    3.181E+00,    5.261E+00,,    -0.052
C,NB-95     ,NO ,    1.617E+01,    4.762E+00,    8.370E+00,,    1.932
C,ZR-95     ,NO ,    -6.172E+00,    6.161E+00,    9.500E+00,,    -0.650
C,MO-99     ,NO ,    1.380E+01,    4.540E+01,    7.657E+01,,    0.180
C,RU-103    ,NO ,    1.846E+00,    3.563E+00,    6.049E+00,,    0.305
C,RU-106    ,NO ,    -5.390E+00,    3.100E+01,    4.980E+01,,    -0.108
C,AG-110m   ,NO ,    -2.314E+00,    3.913E+00,    5.275E+00,,    -0.439
C,SN-113    ,NO ,    -1.978E+00,    4.825E+00,    7.675E+00,,    -0.258
C,SB-124    ,NO ,    -2.919E+00,    4.745E+00,    6.270E+00,,    -0.466
C,SB-125    ,NO ,    2.484E+00,    1.045E+01,    1.766E+01,,    0.141
C,TE-129M   ,NO ,    2.585E+00,    4.203E+01,    7.017E+01,,    0.037
C,I-131     ,NO ,    1.708E+00,    4.159E+00,    6.909E+00,,    0.247
C,BA-133    ,NO ,    7.228E+00,    5.337E+00,    8.134E+00,,    0.889
C,CS-134    ,NO ,    1.041E+01,    4.675E+00,    7.471E+00,,    1.394
C,CS-136    ,NO ,    3.086E+00,    4.117E+00,    7.078E+00,,    0.436
C,CS-137    ,NO ,    1.103E+00,    4.331E+00,    6.094E+00,,    0.181
C,CE-139    ,NO ,    1.708E+00,    3.734E+00,    6.212E+00,,    0.275
C,BA-140    ,NO ,    -6.214E+00,    1.372E+01,    2.199E+01,,    -0.283
C,LA-140    ,NO ,    -1.373E-01,    4.483E+00,    7.305E+00,,    -0.019
C,CE-141    ,NO ,    5.660E+00,    6.371E+00,    1.080E+01,,    0.524
C,CE-144    ,NO ,    -9.073E+00,    2.734E+01,    4.512E+01,,    -0.201
C,EU-152    ,NO ,    7.060E+00,    1.283E+01,    1.932E+01,,    0.365
C,EU-154    ,NO ,    -7.700E-01,    7.275E+00,    1.213E+01,,    -0.063
C,RA-226    ,NO ,    3.162E+01,    9.430E+01,    1.562E+02,,    0.202
C,AC-228    ,NO ,    -1.120E+01,    1.400E+01,    2.188E+01,,    -0.512
C,TH-232    ,NO ,    -1.120E+01,    1.399E+01,    2.186E+01,,    -0.512
C,U-235     ,NO ,    -3.192E+01,    2.897E+01,    4.667E+01,,    -0.684
C,U-238     ,NO ,    4.689E+01,    4.211E+02,    7.049E+02,,    0.067
C,AM-241    ,NO ,    -1.979E+01,    3.291E+01,    5.314E+01,,    -0.372

```

Sec. Review: Analyst: LIMS: ✓

VAX/VMS Teledyne Brown Eng. Laboratory Gamma Report: 11-AUG-2006 15:19:43.76
TBE07 P-10768B HpGe ***** Aquisition Date/Time: 10-AUG-2006 10:44:05.85

LIMS No., Customer Name, Client ID: WG L29515-3 DRESDEN

Sample ID : 07L29515-3 Smple Date: 8-AUG-2006 12:05:00.0
Sample Type : WG Geometry : 0735L090904
Quantity : 3.33010E+00 L BKGFILE : 07BG072806MT
Start Channel : 40 Energy Tol : 1.00000 Real Time : 0 03:00:03.07
End Channel : 4090 Pk Srch Sens: 5.00000 Live time : 0 03:00:00.00
MDA Constant : 0.00 Library Used: LIBD

| Pk | It | Energy | Area | Bkgnd | FWHM | Channel | %Eff | Cts/Sec | %Err | Fit |
|----|----|----------|------|-------|------|---------|----------|----------|------|----------|
| 1 | 1 | 53.30 | 93 | 336 | 1.12 | 107.56 | 2.92E-01 | 8.65E-03 | 32.4 | 2.55E+00 |
| 2 | 1 | 66.16* | 92 | 659 | 1.42 | 133.33 | 7.19E-01 | 8.55E-03 | 50.2 | 1.18E+00 |
| 3 | 1 | 77.00* | 270 | 664 | 0.77 | 155.04 | 1.10E+00 | 2.50E-02 | 17.3 | 1.50E+00 |
| 4 | 1 | 87.02* | 126 | 608 | 0.79 | 175.11 | 1.41E+00 | 1.16E-02 | 35.4 | 8.49E-01 |
| 5 | 3 | 238.63* | 196 | 381 | 1.65 | 478.71 | 1.81E+00 | 1.82E-02 | 20.5 | 2.05E+00 |
| 6 | 3 | 241.94* | 479 | 279 | 1.31 | 485.34 | 1.80E+00 | 4.43E-02 | 7.8 | |
| 7 | 1 | 295.08* | 945 | 347 | 1.07 | 591.75 | 1.61E+00 | 8.75E-02 | 5.2 | 2.29E+00 |
| 8 | 1 | 351.79* | 1628 | 316 | 1.18 | 705.29 | 1.43E+00 | 1.51E-01 | 3.5 | 1.93E+00 |
| 9 | 1 | 583.11* | 46 | 122 | 1.87 | 1168.36 | 1.01E+00 | 4.25E-03 | 54.4 | 1.44E+00 |
| 10 | 1 | 596.10 | 82 | 141 | 3.81 | 1194.37 | 9.96E-01 | 7.62E-03 | 35.2 | 2.33E+00 |
| 11 | 1 | 609.12* | 1326 | 115 | 1.46 | 1220.42 | 9.81E-01 | 1.23E-01 | 3.3 | 2.10E+00 |
| 12 | 1 | 767.81 | 104 | 95 | 1.67 | 1538.03 | 8.29E-01 | 9.59E-03 | 20.9 | 1.14E+00 |
| 13 | 1 | 934.17 | 48 | 65 | 1.90 | 1870.94 | 7.17E-01 | 4.47E-03 | 33.5 | 1.40E+00 |
| 14 | 1 | 1120.14* | 291 | 56 | 1.90 | 2243.00 | 6.26E-01 | 2.69E-02 | 8.5 | 3.46E+00 |
| 15 | 1 | 1238.18* | 118 | 52 | 2.12 | 2479.14 | 5.81E-01 | 1.09E-02 | 16.3 | 8.65E-01 |
| 16 | 1 | 1407.57 | 57 | 19 | 2.24 | 2817.93 | 5.29E-01 | 5.25E-03 | 20.3 | 1.12E+00 |
| 17 | 1 | 1660.67 | 23 | 14 | 2.31 | 3324.03 | 4.72E-01 | 2.17E-03 | 35.5 | 3.61E+00 |
| 18 | 1 | 1764.65* | 270 | 6 | 2.84 | 3531.91 | 4.54E-01 | 2.50E-02 | 7.0 | 1.30E+00 |

Flag: "*" = Peak area was modified by background subtraction

Nuclide Line Activity Report

Nuclide Type: natural

| Nuclide | Energy | Area | %Abn | %Eff | Uncorrected pCi/L | Decay Corr pCi/L | 2-Sigma %Error |
|---------|--------|------|--------|-----------|----------------------|---------------------|-------------------|
| TH-228 | 238.63 | 196 | 44.60* | 1.815E+00 | 1.822E+01 | 1.826E+01 | 40.91 |
| | 240.98 | 479 | 3.95 | 1.802E+00 | 5.055E+02 | 5.065E+02 | 15.58 |

Flag: "*" = Keyline

Summary of Nuclide Activity

Page : 2

Sample ID : 07L29515-3

Acquisition date : 10-AUG-2006 10:44:05

| | | |
|---|----|--------|
| Total number of lines in spectrum | 18 | |
| Number of unidentified lines | 14 | |
| Number of lines tentatively identified by NID | 4 | 22.22% |

Nuclide Type : natural

| Nuclide | Hlife | Decay | Uncorrected pCi/L | Decay Corr pCi/L | Decay Corr 2-Sigma Error | 2-Sigma %Error | Flags |
|------------------|-------|-------|----------------------|---------------------|-----------------------------|-------------------|-------|
| TH-228 | 1.91Y | 1.00 | 1.822E+01 | 1.826E+01 | 0.747E+01 | 40.91 | |
| Total Activity : | | | 1.822E+01 | 1.826E+01 | | | |

| | | |
|------------------------|-----------|-----------|
| Grand Total Activity : | 1.822E+01 | 1.826E+01 |
|------------------------|-----------|-----------|

Flags: "K" = Keyline not found
 "E" = Manually edited

"M" = Manually accepted
 "A" = Nuclide specific abn. limit

Unidentified Energy Lines

Page : 3

Sample ID : 07L29515-3

Acquisition date : 10-AUG-2006 10:44:05

| It | Energy | Area | Bkgnd | FWHM | Channel | Left | Pw | Cts/Sec | %Err | %Eff | Flags |
|----|---------|------|-------|------|---------|------|----|----------|------|----------|-------|
| 1 | 53.30 | 93 | 336 | 1.12 | 107.56 | 105 | 6 | 8.65E-03 | 64.7 | 2.92E-01 | |
| 1 | 66.16 | 92 | 659 | 1.42 | 133.33 | 130 | 8 | 8.55E-03 | **** | 7.19E-01 | |
| 1 | 77.00 | 270 | 664 | 0.77 | 155.04 | 153 | 7 | 2.50E-02 | 34.5 | 1.10E+00 | |
| 1 | 87.02 | 126 | 608 | 0.79 | 175.11 | 172 | 8 | 1.16E-02 | 70.9 | 1.41E+00 | |
| 1 | 295.08 | 945 | 347 | 1.07 | 591.75 | 586 | 12 | 8.75E-02 | 10.4 | 1.61E+00 | |
| 1 | 351.79 | 1628 | 316 | 1.18 | 705.29 | 698 | 14 | 1.51E-01 | 6.9 | 1.43E+00 | |
| 1 | 583.11 | 46 | 122 | 1.87 | 1168.36 | 1163 | 12 | 4.25E-03 | **** | 1.01E+00 | T |
| 1 | 596.10 | 82 | 141 | 3.81 | 1194.37 | 1187 | 17 | 7.62E-03 | 70.5 | 9.96E-01 | |
| 1 | 609.12 | 1326 | 115 | 1.46 | 1220.42 | 1213 | 14 | 1.23E-01 | 6.6 | 9.81E-01 | |
| 1 | 767.81 | 104 | 95 | 1.67 | 1538.03 | 1532 | 11 | 9.59E-03 | 41.8 | 8.29E-01 | |
| 1 | 934.17 | 48 | 65 | 1.90 | 1870.94 | 1867 | 9 | 4.47E-03 | 67.0 | 7.17E-01 | |
| 1 | 1120.14 | 291 | 56 | 1.90 | 2243.00 | 2235 | 15 | 2.69E-02 | 16.9 | 6.26E-01 | |
| 1 | 1238.18 | 118 | 52 | 2.12 | 2479.14 | 2472 | 14 | 1.09E-02 | 32.6 | 5.81E-01 | |
| 1 | 1407.57 | 57 | 19 | 2.24 | 2817.93 | 2812 | 11 | 5.25E-03 | 40.5 | 5.29E-01 | T |
| 1 | 1660.67 | 23 | 14 | 2.31 | 3324.03 | 3320 | 9 | 2.17E-03 | 71.0 | 4.72E-01 | |
| 1 | 1764.65 | 270 | 6 | 2.84 | 3531.91 | 3520 | 23 | 2.50E-02 | 13.9 | 4.54E-01 | |

Flags: "T" = Tentatively associated

Summary of Nuclide Activity

| | |
|---|-------------------------------|
| Total number of lines in spectrum | 18 |
| Number of unidentified lines | 14 |
| Number of lines tentatively identified by NID | 4 22.22% |

Nuclide Type : natural

| Nuclide | Hlife | Decay | Wtd Mean Uncorrected pCi/L | Wtd Mean Decay Corr pCi/L | Decay Corr 2-Sigma Error | 2-Sigma %Error | Flags |
|------------------|-------|-------|----------------------------------|---------------------------------|-----------------------------|-------------------|-------|
| TH-228 | 1.91Y | 1.00 | 1.822E+01 | 1.826E+01 | 0.747E+01 | 40.91 | |
| Total Activity : | | | 1.822E+01 | 1.826E+01 | | | |

Grand Total Activity : 1.822E+01 1.826E+01

Flags: "K" = Keyline not found

"M" = Manually accepted

"E" = Manually edited

"A" = Nuclide specific abn. limit

Interference Report

No interference correction performed

Combined Activity-MDA Report

---- Identified Nuclides ----

| Nuclide | Activity (pCi/L) | Act error | MDA (pCi/L) | MDA error | Act/MDA |
|---------|---------------------|-----------|----------------|-----------|---------|
| TH-228 | 1.826E+01 | 7.470E+00 | 7.706E+00 | 0.000E+00 | 2.370 |


---- Non-Identified Nuclides ----

| Nuclide | Key-Line Activity (pCi/L) | K.L. Ided | Act error | MDA (pCi/L) | MDA error | Act/MDA |
|---------|---------------------------------|--------------|-----------|----------------|-----------|---------|
| BE-7 | 1.118E+01 | | 2.148E+01 | 3.547E+01 | 0.000E+00 | 0.315 |
| NA-24 | -1.480E+01 | | 2.503E+01 | 3.808E+01 | 0.000E+00 | -0.389 |
| K-40 | -1.899E+01 | | 3.720E+01 | 6.949E+01 | 0.000E+00 | -0.273 |
| CR-51 | -8.769E-01 | | 2.274E+01 | 3.727E+01 | 0.000E+00 | -0.024 |
| MN-54 | -3.431E+00 | | 2.725E+00 | 3.975E+00 | 0.000E+00 | -0.863 |
| CO-57 | -1.631E+00 | | 2.719E+00 | 4.296E+00 | 0.000E+00 | -0.380 |
| CO-58 | -2.498E+00 | | 2.601E+00 | 3.896E+00 | 0.000E+00 | -0.641 |
| FE-59 | -2.055E+00 | | 4.981E+00 | 7.971E+00 | 0.000E+00 | -0.258 |
| CO-60 | 4.811E-01 | | 2.671E+00 | 4.440E+00 | 0.000E+00 | 0.108 |
| ZN-65 | 4.266E+00 | | 6.238E+00 | 9.627E+00 | 0.000E+00 | 0.443 |
| SE-75 | 1.962E+00 | | 3.393E+00 | 5.773E+00 | 0.000E+00 | 0.340 |
| SR-85 | -1.007E+01 | | 3.171E+00 | 4.595E+00 | 0.000E+00 | -2.191 |
| Y-88 | 1.681E+00 | | 2.467E+00 | 4.436E+00 | 0.000E+00 | 0.379 |
| NB-94 | 1.111E+00 | | 2.403E+00 | 4.074E+00 | 0.000E+00 | 0.273 |
| NB-95 | 8.556E+00 | | 3.221E+00 | 5.610E+00 | 0.000E+00 | 1.525 |
| ZR-95 | -4.188E-01 | | 4.162E+00 | 6.741E+00 | 0.000E+00 | -0.062 |
| MO-99 | 4.929E+00 | | 2.840E+01 | 4.712E+01 | 0.000E+00 | 0.105 |
| RU-103 | -1.067E+00 | | 2.486E+00 | 4.084E+00 | 0.000E+00 | -0.261 |
| RU-106 | -6.524E+00 | | 2.161E+01 | 3.504E+01 | 0.000E+00 | -0.186 |
| AG-110m | 2.034E-01 | | 2.271E+00 | 3.774E+00 | 0.000E+00 | 0.054 |
| SN-113 | -1.318E+00 | | 3.383E+00 | 5.363E+00 | 0.000E+00 | -0.246 |
| SB-124 | 2.456E+00 | | 3.465E+00 | 3.834E+00 | 0.000E+00 | 0.640 |
| SB-125 | 7.968E+00 | | 7.753E+00 | 1.319E+01 | 0.000E+00 | 0.604 |
| TE-129M | 4.826E+00 | | 3.068E+01 | 4.960E+01 | 0.000E+00 | 0.097 |
| I-131 | -8.588E-01 | | 2.971E+00 | 4.760E+00 | 0.000E+00 | -0.180 |
| BA-133 | -2.290E+00 | | 4.040E+00 | 5.526E+00 | 0.000E+00 | -0.414 |
| CS-134 | 4.506E-01 | | 2.919E+00 | 3.754E+00 | 0.000E+00 | 0.120 |
| CS-136 | -1.571E+00 | | 2.414E+00 | 3.675E+00 | 0.000E+00 | -0.427 |
| CS-137 | -3.119E+00 | | 2.883E+00 | 4.407E+00 | 0.000E+00 | -0.708 |
| CE-139 | 8.426E-01 | | 2.806E+00 | 4.504E+00 | 0.000E+00 | 0.187 |
| BA-140 | -1.810E-01 | | 9.618E+00 | 1.609E+01 | 0.000E+00 | -0.011 |
| LA-140 | -3.487E-01 | | 3.278E+00 | 5.412E+00 | 0.000E+00 | -0.064 |
| CE-141 | -5.936E+00 | | 4.905E+00 | 7.503E+00 | 0.000E+00 | -0.791 |
| CE-144 | 3.358E+01 | | 2.149E+01 | 3.633E+01 | 0.000E+00 | 0.924 |
| EU-152 | -1.921E+00 | | 8.566E+00 | 1.336E+01 | 0.000E+00 | -0.144 |
| EU-154 | -3.498E+00 | | 5.718E+00 | 9.027E+00 | 0.000E+00 | -0.387 |
| RA-226 | -4.508E+01 | | 6.773E+01 | 1.148E+02 | 0.000E+00 | -0.393 |
| AC-228 | -1.262E+00 | | 1.057E+01 | 1.788E+01 | 0.000E+00 | -0.071 |
| TH-232 | -1.261E+00 | | 1.057E+01 | 1.787E+01 | 0.000E+00 | -0.071 |
| U-235 | 1.538E+00 | | 2.176E+01 | 3.478E+01 | 0.000E+00 | 0.044 |
| U-238 | 2.746E+02 | | 2.922E+02 | 5.149E+02 | 0.000E+00 | 0.533 |
| AM-241 | -1.884E+00 | | 2.442E+01 | 4.060E+01 | 0.000E+00 | -0.046 |

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A,07L29515-3      ,08/11/2006 15:19,08/08/2006 12:05,    3.330E+00,WG L29515-2 DR
B,07L29515-3      ,LIBD      ,08/07/2006 09:38,0735L090904
C,TH-228    ,YES,    1.826E+01,    7.470E+00,    7.706E+00,,    2.370
C,BE-7      ,NO ,    1.118E+01,    2.148E+01,    3.547E+01,,    0.315
C,NA-24     ,NO ,   -1.480E+01,    2.503E+01,    3.808E+01,,   -0.389
C,K-40      ,NO ,   -1.899E+01,    3.720E+01,    6.949E+01,,   -0.273
C,CR-51     ,NO ,   -8.769E-01,    2.274E+01,    3.727E+01,,   -0.024
C,MN-54     ,NO ,   -3.431E+00,    2.725E+00,    3.975E+00,,   -0.863
C,CO-57     ,NO ,   -1.631E+00,    2.719E+00,    4.296E+00,,   -0.380
C,CO-58     ,NO ,   -2.498E+00,    2.601E+00,    3.896E+00,,   -0.641
C,FE-59     ,NO ,   -2.055E+00,    4.981E+00,    7.971E+00,,   -0.258
C,CO-60     ,NO ,    4.811E-01,    2.671E+00,    4.440E+00,,    0.108
C,ZN-65     ,NO ,    4.266E+00,    6.238E+00,    9.627E+00,,    0.443
C,SE-75     ,NO ,    1.962E+00,    3.393E+00,    5.773E+00,,    0.340
C,SR-85     ,NO ,   -1.007E+01,    3.171E+00,    4.595E+00,,   -2.191
C,Y-88      ,NO ,    1.681E+00,    2.467E+00,    4.436E+00,,    0.379
C,NB-94     ,NO ,    1.111E+00,    2.403E+00,    4.074E+00,,    0.273
C,NB-95     ,NO ,    8.556E+00,    3.221E+00,    5.610E+00,,    1.525
C,ZR-95     ,NO ,   -4.188E-01,    4.162E+00,    6.741E+00,,   -0.062
C,MO-99     ,NO ,    4.929E+00,    2.840E+01,    4.712E+01,,    0.105
C,RU-103    ,NO ,   -1.067E+00,    2.486E+00,    4.084E+00,,   -0.261
C,RU-106    ,NO ,   -6.524E+00,    2.161E+01,    3.504E+01,,   -0.186
C,AG-110m   ,NO ,    2.034E-01,    2.271E+00,    3.774E+00,,    0.054
C,SN-113    ,NO ,   -1.318E+00,    3.383E+00,    5.363E+00,,   -0.246
C,SB-124    ,NO ,    2.456E+00,    3.465E+00,    3.834E+00,,    0.640
C,SB-125    ,NO ,    7.968E+00,    7.753E+00,    1.319E+01,,    0.604
C,TE-129M   ,NO ,    4.826E+00,    3.068E+01,    4.960E+01,,    0.097
C,I-131     ,NO ,   -8.588E-01,    2.971E+00,    4.760E+00,,   -0.180
C,BA-133    ,NO ,   -2.290E+00,    4.040E+00,    5.526E+00,,   -0.414
C,CS-134    ,NO ,    4.506E-01,    2.919E+00,    3.754E+00,,    0.120
C,CS-136    ,NO ,   -1.571E+00,    2.414E+00,    3.675E+00,,   -0.427
C,CS-137    ,NO ,   -3.119E+00,    2.883E+00,    4.407E+00,,   -0.708
C,CE-139    ,NO ,    8.426E-01,    2.806E+00,    4.504E+00,,    0.187
C,BA-140    ,NO ,   -1.810E-01,    9.618E+00,    1.609E+01,,   -0.011
C,LA-140    ,NO ,   -3.487E-01,    3.278E+00,    5.412E+00,,   -0.064
C,CE-141    ,NO ,   -5.936E+00,    4.905E+00,    7.503E+00,,   -0.791
C,CE-144    ,NO ,    3.358E+01,    2.149E+01,    3.633E+01,,    0.924
C,EU-152    ,NO ,   -1.921E+00,    8.566E+00,    1.336E+01,,   -0.144
C,EU-154    ,NO ,   -3.498E+00,    5.718E+00,    9.027E+00,,   -0.387
C,RA-226    ,NO ,   -4.508E+01,    6.773E+01,    1.148E+02,,   -0.393
C,AC-228    ,NO ,   -1.262E+00,    1.057E+01,    1.788E+01,,   -0.071
C,TH-232    ,NO ,   -1.261E+00,    1.057E+01,    1.787E+01,,   -0.071
C,U-235     ,NO ,    1.538E+00,    2.176E+01,    3.478E+01,,    0.044
C,U-238     ,NO ,    2.746E+02,    2.922E+02,    5.149E+02,,    0.533
C,AM-241    ,NO ,   -1.884E+00,    2.442E+01,    4.060E+01,,   -0.046

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Sec. Review: Analyst: LIMS: 

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VAX/VMS Teledyne Brown Eng. Laboratory Gamma Report: 10-AUG-2006 13:25:11.91

TBE23 03017322 HpGe ***** Aquisition Date/Time: 10-AUG-2006 11:24:56.75

LIMS No., Customer Name, Client ID: WG L29515-4 DRESDEN

| | | | |
|---------------|-----------------|---------------|-----------------------|
| Sample ID | : 23L29515-4 | Smple Date: | 8-AUG-2006 14:30:00.0 |
| Sample Type | : WG | Geometry | : 233L082404 |
| Quantity | : 3.20620E+00 L | BKGFILE | : 23BG072806MT |
| Start Channel | : 50 | Energy Tol | : 1.00000 |
| End Channel | : 4090 | Pk Srch Sens: | 5.00000 |
| MDA Constant | : 0.00 | Library Used: | LIBD |
| | | Real Time | : 0 02:00:05.02 |
| | | Live time | : 0 02:00:00.00 |

| Pk | It | Energy | Area | Bkgnd | FWHM | Channel | %Eff | Cts/Sec | %Err | Fit |
|----|----|----------|------|-------|------|---------|----------|----------|-------|----------|
| 1 | 0 | 63.06* | 28 | 239 | 1.33 | 126.36 | 1.03E+00 | 3.87E-03 | 97.8 | 0.00E+00 |
| 2 | 0 | 77.55* | 73 | 362 | 0.95 | 155.32 | 1.55E+00 | 1.01E-02 | 49.3 | |
| 3 | 0 | 92.80* | 68 | 430 | 1.07 | 185.78 | 1.94E+00 | 9.38E-03 | 65.3 | |
| 4 | 0 | 185.89* | 35 | 237 | 1.23 | 371.74 | 2.17E+00 | 4.90E-03 | 85.8 | |
| 5 | 0 | 238.54* | 36 | 184 | 1.26 | 476.94 | 1.90E+00 | 5.05E-03 | 69.3 | |
| 6 | 0 | 241.76 | 51 | 159 | 1.21 | 483.37 | 1.88E+00 | 7.10E-03 | 43.4 | |
| 7 | 0 | 295.55* | 155 | 128 | 1.25 | 590.86 | 1.64E+00 | 2.15E-02 | 16.9 | |
| 8 | 0 | 351.78* | 211 | 107 | 1.48 | 703.23 | 1.43E+00 | 2.93E-02 | 12.6 | |
| 9 | 0 | 511.14* | 21 | 62 | 2.25 | 1021.79 | 1.07E+00 | 2.87E-03 | 115.2 | |
| 10 | 0 | 583.14* | 47 | 47 | 1.22 | 1165.74 | 9.71E-01 | 6.53E-03 | 35.2 | |
| 11 | 0 | 609.29* | 183 | 70 | 1.63 | 1218.02 | 9.40E-01 | 2.54E-02 | 12.7 | |
| 12 | 0 | 768.65 | 66 | 28 | 3.36 | 1536.75 | 7.96E-01 | 9.16E-03 | 22.5 | |
| 13 | 0 | 911.80* | 24 | 21 | 1.35 | 1823.16 | 7.08E-01 | 3.30E-03 | 46.6 | |
| 14 | 0 | 933.15 | 26 | 14 | 1.10 | 1865.88 | 6.97E-01 | 3.61E-03 | 34.0 | |
| 15 | 0 | 1024.35 | 24 | 6 | 4.01 | 2048.38 | 6.54E-01 | 3.33E-03 | 28.9 | |
| 16 | 0 | 1033.38 | 23 | 3 | 2.98 | 2066.46 | 6.50E-01 | 3.25E-03 | 25.3 | |
| 17 | 0 | 1120.60* | 41 | 17 | 1.23 | 2241.04 | 6.15E-01 | 5.69E-03 | 27.6 | |
| 18 | 0 | 1377.91 | 25 | 16 | 1.95 | 2756.27 | 5.32E-01 | 3.44E-03 | 39.1 | |
| 19 | 0 | 1460.98* | 5 | 15 | 2.52 | 2922.68 | 5.10E-01 | 6.26E-04 | 276.8 | |
| 20 | 0 | 1667.67 | 19 | 2 | 1.56 | 3336.82 | 4.59E-01 | 2.57E-03 | 27.6 | |
| 21 | 0 | 1763.78* | 48 | 12 | 1.12 | 3529.46 | 4.38E-01 | 6.73E-03 | 22.7 | |

Flag: "*" = Peak area was modified by background subtraction

Nuclide Line Activity Report

Nuclide Type: natural

| Nuclide | Energy | Area | %Abn | %Eff | Uncorrected pCi/L | Decay Corr pCi/L | 2-Sigma %Error |
|---------|---------|-------|--------|-----------|----------------------|---------------------|-------------------|
| K-40 | 1460.81 | 5 | 10.67* | 5.095E-01 | 9.709E+00 | 9.709E+00 | 553.64 |
| RA-226 | 186.21 | 35 | 3.28* | 2.173E+00 | 5.794E+01 | 5.794E+01 | 171.60 |
| AC-228 | 835.50 | ----- | 1.75 | 7.515E-01 | ----- | Line Not Found | ----- |
| | 911.07 | 24 | 27.70* | 7.080E-01 | 1.418E+01 | 1.419E+01 | 93.16 |
| TH-228 | 238.63 | 36 | 44.60* | 1.900E+00 | 5.018E+00 | 5.028E+00 | 138.67 |
| | 240.98 | 51 | 3.95 | 1.884E+00 | 8.045E+01 | 8.061E+01 | 86.72 |
| TH-232 | 583.14 | 47 | 30.25 | 9.713E-01 | 1.874E+01 | 1.874E+01 | 70.40 |
| | 911.07 | 24 | 27.70* | 7.080E-01 | 1.418E+01 | 1.418E+01 | 93.16 |
| | 969.11 | ----- | 16.60 | 6.793E-01 | ----- | Line Not Found | ----- |

Flag: "*" = Keyline

Summary of Nuclide Activity

Page : 2

Sample ID : 23L29515-4

Acquisition date : 10-AUG-2006 11:24:56

| | | |
|---|----|--------|
| Total number of lines in spectrum | 21 | |
| Number of unidentified lines | 15 | |
| Number of lines tentatively identified by NID | 6 | 28.57% |

Nuclide Type : natural

| Nuclide | Hlife | Decay | Uncorrected pCi/L | Decay Corr pCi/L | Decay Corr 2-Sigma Error | 2-Sigma %Error | Flags |
|------------------|-----------|-------|----------------------|---------------------|-----------------------------|-------------------|-------|
| K-40 | 1.28E+09Y | 1.00 | 9.709E+00 | 9.709E+00 | 53.75E+00 | 553.64 | |
| RA-226 | 1600.00Y | 1.00 | 5.794E+01 | 5.794E+01 | 9.942E+01 | 171.60 | |
| AC-228 | 5.75Y | 1.00 | 1.418E+01 | 1.419E+01 | 1.322E+01 | 93.16 | |
| TH-228 | 1.91Y | 1.00 | 5.018E+00 | 5.028E+00 | 6.972E+00 | 138.67 | |
| TH-232 | 1.41E+10Y | 1.00 | 1.418E+01 | 1.418E+01 | 1.321E+01 | 93.16 | |
| | | | ----- | ----- | | | |
| Total Activity : | | | 1.010E+02 | 1.010E+02 | | | |

Grand Total Activity : 1.010E+02 1.010E+02

Flags: "K" = Keyline not found
 "E" = Manually edited

"M" = Manually accepted
 "A" = Nuclide specific abn. limit

Unidentified Energy Lines
Sample ID : 23L29515-4

Page : 3
Acquisition date : 10-AUG-2006 11:24:56

| It | Energy | Area | Bkgnd | FWHM | Channel | Left | Pw | Cts/Sec | %Err | %Eff | Flags |
|----|---------|------|-------|------|---------|------|----|----------|------|----------|-------|
| 0 | 63.06 | 28 | 239 | 1.33 | 126.36 | 123 | 7 | 3.87E-03 | **** | 1.03E+00 | |
| 0 | 77.55 | 73 | 362 | 0.95 | 155.32 | 152 | 9 | 1.01E-02 | 98.6 | 1.55E+00 | |
| 0 | 92.80 | 68 | 430 | 1.07 | 185.78 | 180 | 12 | 9.38E-03 | **** | 1.94E+00 | |
| 0 | 295.55 | 155 | 128 | 1.25 | 590.86 | 586 | 12 | 2.15E-02 | 33.9 | 1.64E+00 | |
| 0 | 351.78 | 211 | 107 | 1.48 | 703.23 | 697 | 13 | 2.93E-02 | 25.2 | 1.43E+00 | |
| 0 | 511.14 | 21 | 62 | 2.25 | 1021.79 | 1014 | 16 | 2.87E-03 | **** | 1.07E+00 | |
| 0 | 609.29 | 183 | 70 | 1.63 | 1218.02 | 1209 | 14 | 2.54E-02 | 25.3 | 9.40E-01 | |
| 0 | 768.65 | 66 | 28 | 3.36 | 1536.75 | 1529 | 17 | 9.16E-03 | 45.0 | 7.96E-01 | |
| 0 | 933.15 | 26 | 14 | 1.10 | 1865.88 | 1861 | 11 | 3.61E-03 | 67.9 | 6.97E-01 | |
| 0 | 1024.35 | 24 | 6 | 4.01 | 2048.38 | 2042 | 12 | 3.33E-03 | 57.7 | 6.54E-01 | |
| 0 | 1033.38 | 23 | 3 | 2.98 | 2066.46 | 2061 | 12 | 3.25E-03 | 50.6 | 6.50E-01 | |
| 0 | 1120.60 | 41 | 17 | 1.23 | 2241.04 | 2235 | 12 | 5.69E-03 | 55.1 | 6.15E-01 | |
| 0 | 1377.91 | 25 | 16 | 1.95 | 2756.27 | 2749 | 13 | 3.44E-03 | 78.2 | 5.32E-01 | |
| 0 | 1667.67 | 19 | 2 | 1.56 | 3336.82 | 3333 | 9 | 2.57E-03 | 55.1 | 4.59E-01 | |
| 0 | 1763.78 | 48 | 12 | 1.12 | 3529.46 | 3521 | 16 | 6.73E-03 | 45.5 | 4.38E-01 | |

Flags: "T" = Tentatively associated

Summary of Nuclide Activity

| | |
|---|-------------------------------|
| Total number of lines in spectrum | 21 |
| Number of unidentified lines | 15 |
| Number of lines tentatively identified by NID | 6 28.57% |

Nuclide Type : natural

| Nuclide | Hlife | Decay | Wtd Mean | Wtd Mean | Decay Corr | 2-Sigma | Error | %Error | Flags |
|------------------|-----------|-------|-------------|------------|------------|---------|-------|--------|-------|
| | | | Uncorrected | Decay Corr | | | | | |
| | | | pCi/L | pCi/L | | | | | |
| K-40 | 1.28E+09Y | 1.00 | 9.709E+00 | 9.709E+00 | 53.75E+00 | 553.64 | | | |
| RA-226 | 1600.00Y | 1.00 | 5.794E+01 | 5.794E+01 | 9.942E+01 | 171.60 | | | |
| TH-228 | 1.91Y | 1.00 | 5.762E+00 | 5.773E+00 | 6.938E+00 | 120.19 | | | |
| TH-232 | 1.41E+10Y | 1.00 | 1.646E+01 | 1.646E+01 | 0.933E+01 | 56.70 | | | |
| Total Activity : | | | 8.987E+01 | 8.988E+01 | | | | | |

Grand Total Activity : 8.987E+01 8.988E+01

Flags: "K" = Keyline not found "M" = Manually accepted
 "E" = Manually edited "A" = Nuclide specific abn. limit

Interference Report

| Interfering | | Interfered | |
|-------------|--------|------------|--------|
| Nuclide | Line | Nuclide | Line |
| TH-232 | 911.07 | AC-228 | 911.07 |

Combined Activity-MDA Report

---- Identified Nuclides ----

| | | | | |
|----------|-----------|-----|-----------|---------|
| Activity | Act error | MDA | MDA error | Act/MDA |
|----------|-----------|-----|-----------|---------|

| Nuclide | (pCi/L) | | (pCi/L) | | |
|---------|-----------|-----------|-----------|-----------|-------|
| K-40 | 9.709E+00 | 5.375E+01 | 5.956E+01 | 0.000E+00 | 0.163 |
| RA-226 | 5.794E+01 | 9.942E+01 | 1.386E+02 | 0.000E+00 | 0.418 |
| TH-228 | 5.773E+00 | 6.938E+00 | 1.042E+01 | 0.000E+00 | 0.554 |
| TH-232 | 1.646E+01 | 9.335E+00 | 1.888E+01 | 0.000E+00 | 0.872 |

---- Non-Identified Nuclides ----

| Nuclide | Key-Line Activity (pCi/L) | K.L. Ided | Act error | MDA (pCi/L) | MDA error | Act/MDA |
|---------|---------------------------------|--------------|-----------|----------------|-----------|---------|
| BE-7 | -1.225E+01 | | 2.386E+01 | 4.084E+01 | 0.000E+00 | -0.300 |
| NA-24 | 1.475E+01 | | 2.377E+01 | 4.500E+01 | 0.000E+00 | 0.328 |
| CR-51 | -1.228E+01 | | 2.815E+01 | 4.654E+01 | 0.000E+00 | -0.264 |
| MN-54 | 2.445E+00 | | 2.921E+00 | 5.589E+00 | 0.000E+00 | 0.438 |
| CO-57 | 1.918E+00 | | 3.365E+00 | 5.895E+00 | 0.000E+00 | 0.325 |
| CO-58 | 2.121E+00 | | 2.983E+00 | 5.633E+00 | 0.000E+00 | 0.376 |
| FE-59 | 3.404E+00 | | 6.325E+00 | 1.200E+01 | 0.000E+00 | 0.284 |
| CO-60 | 6.823E-01 | | 3.147E+00 | 5.898E+00 | 0.000E+00 | 0.116 |
| ZN-65 | -3.032E+00 | | 7.373E+00 | 1.070E+01 | 0.000E+00 | -0.283 |
| SE-75 | -1.309E+00 | | 4.193E+00 | 7.024E+00 | 0.000E+00 | -0.186 |
| SR-85 | 7.425E+00 | | 3.613E+00 | 6.464E+00 | 0.000E+00 | 1.149 |
| Y-88 | 1.448E+00 | | 2.752E+00 | 5.790E+00 | 0.000E+00 | 0.250 |
| NB-94 | 2.137E+00 | | 3.028E+00 | 5.643E+00 | 0.000E+00 | 0.379 |
| NB-95 | 3.564E+00 | | 3.932E+00 | 6.529E+00 | 0.000E+00 | 0.546 |
| ZR-95 | -1.626E+00 | | 5.346E+00 | 9.161E+00 | 0.000E+00 | -0.177 |
| MO-99 | -6.542E+00 | | 3.598E+01 | 6.250E+01 | 0.000E+00 | -0.105 |
| RU-103 | -1.028E+00 | | 3.077E+00 | 5.322E+00 | 0.000E+00 | -0.193 |
| RU-106 | -4.033E+00 | | 3.014E+01 | 5.256E+01 | 0.000E+00 | -0.077 |
| AG-110m | -1.535E+00 | | 2.934E+00 | 4.948E+00 | 0.000E+00 | -0.310 |
| SN-113 | -2.128E-01 | | 4.284E+00 | 7.229E+00 | 0.000E+00 | -0.029 |
| SB-124 | -1.490E+00 | | 3.506E+00 | 5.045E+00 | 0.000E+00 | -0.295 |
| SB-125 | -2.043E-01 | | 8.624E+00 | 1.530E+01 | 0.000E+00 | -0.013 |
| TE-129M | -7.583E+00 | | 3.554E+01 | 6.209E+01 | 0.000E+00 | -0.122 |
| I-131 | 3.857E-01 | | 3.613E+00 | 6.194E+00 | 0.000E+00 | 0.062 |
| BA-133 | 2.720E+00 | | 4.650E+00 | 7.223E+00 | 0.000E+00 | 0.377 |
| CS-134 | -3.803E-01 | | 3.229E+00 | 4.845E+00 | 0.000E+00 | -0.078 |
| CS-136 | -2.141E+00 | | 3.171E+00 | 5.200E+00 | 0.000E+00 | -0.412 |
| CS-137 | -2.207E+00 | | 3.151E+00 | 5.220E+00 | 0.000E+00 | -0.423 |
| CE-139 | -5.047E-01 | | 3.270E+00 | 5.563E+00 | 0.000E+00 | -0.091 |
| BA-140 | -9.123E+00 | | 1.122E+01 | 1.860E+01 | 0.000E+00 | -0.490 |
| LA-140 | 7.572E-02 | | 3.951E+00 | 7.205E+00 | 0.000E+00 | 0.011 |
| CE-141 | 1.382E+00 | | 5.796E+00 | 1.002E+01 | 0.000E+00 | 0.138 |
| CE-144 | 2.156E+00 | | 2.531E+01 | 4.360E+01 | 0.000E+00 | 0.049 |
| EU-152 | -3.637E+00 | | 1.132E+01 | 1.692E+01 | 0.000E+00 | -0.215 |
| EU-154 | 4.459E+00 | | 7.070E+00 | 1.241E+01 | 0.000E+00 | 0.359 |
| AC-228 | 1.419E+01 | | 1.322E+01 | 2.277E+01 | 0.000E+00 | 0.623 |
| U-235 | -2.439E+01 | | 2.649E+01 | 4.384E+01 | 0.000E+00 | -0.556 |
| U-238 | -1.581E+01 | | 3.062E+02 | 5.749E+02 | 0.000E+00 | -0.028 |
| AM-241 | 3.118E+00 | | 1.992E+01 | 2.923E+01 | 0.000E+00 | 0.107 |

A,23L29515-4 ,08/10/2006 13:25,08/08/2006 14:30, 3.206E+00,WG L29515-4 DR
 B,23L29515-4 ,LIBD ,08/07/2006 09:53,233L082404
 C,K-40 ,YES, 9.709E+00, 5.375E+01, 5.956E+01,, 0.163
 C,RA-226 ,YES, 5.794E+01, 9.942E+01, 1.386E+02,, 0.418
 C,TH-228 ,YES, 5.773E+00, 6.938E+00, 1.042E+01,, 0.554
 C,TH-232 ,YES, 1.646E+01, 9.335E+00, 1.888E+01,, 0.872
 C,BE-7 ,NO , -1.225E+01, 2.386E+01, 4.084E+01,, -0.300
 C,NA-24 ,NO , 1.475E+01, 2.377E+01, 4.500E+01,, 0.328
 C,CR-51 ,NO , -1.228E+01, 2.815E+01, 4.654E+01,, -0.264
 C,MN-54 ,NO , 2.445E+00, 2.921E+00, 5.589E+00,, 0.438
 C,CO-57 ,NO , 1.918E+00, 3.365E+00, 5.895E+00,, 0.325
 C,CO-58 ,NO , 2.121E+00, 2.983E+00, 5.633E+00,, 0.376
 C,FE-59 ,NO , 3.404E+00, 6.325E+00, 1.200E+01,, 0.284
 C,CO-60 ,NO , 6.823E-01, 3.147E+00, 5.898E+00,, 0.116
 C,ZN-65 ,NO , -3.032E+00, 7.373E+00, 1.070E+01,, -0.283
 C,SE-75 ,NO , -1.309E+00, 4.193E+00, 7.024E+00,, -0.186
 C,SR-85 ,NO , 7.425E+00, 3.613E+00, 6.464E+00,, 1.149
 C,Y-88 ,NO , 1.448E+00, 2.752E+00, 5.790E+00,, 0.250
 C,NB-94 ,NO , 2.137E+00, 3.028E+00, 5.643E+00,, 0.379
 C,NB-95 ,NO , 3.564E+00, 3.932E+00, 6.529E+00,, 0.546
 C,ZR-95 ,NO , -1.626E+00, 5.346E+00, 9.161E+00,, -0.177
 C,MO-99 ,NO , -6.542E+00, 3.598E+01, 6.250E+01,, -0.105
 C,RU-103 ,NO , -1.028E+00, 3.077E+00, 5.322E+00,, -0.193
 C,RU-106 ,NO , -4.033E+00, 3.014E+01, 5.256E+01,, -0.077
 C,AG-110m ,NO , -1.535E+00, 2.934E+00, 4.948E+00,, -0.310
 C,SN-113 ,NO , -2.128E-01, 4.284E+00, 7.229E+00,, -0.029
 C,SB-124 ,NO , -1.490E+00, 3.506E+00, 5.045E+00,, -0.295
 C,SB-125 ,NO , -2.043E-01, 8.624E+00, 1.530E+01,, -0.013
 C,TE-129M ,NO , -7.583E+00, 3.554E+01, 6.209E+01,, -0.122
 C,I-131 ,NO , 3.857E-01, 3.613E+00, 6.194E+00,, 0.062
 C,BA-133 ,NO , 2.720E+00, 4.650E+00, 7.223E+00,, 0.377
 C,CS-134 ,NO , -3.803E-01, 3.229E+00, 4.845E+00,, -0.078
 C,CS-136 ,NO , -2.141E+00, 3.171E+00, 5.200E+00,, -0.412
 C,CS-137 ,NO , -2.207E+00, 3.151E+00, 5.220E+00,, -0.423
 C,CE-139 ,NO , -5.047E-01, 3.270E+00, 5.563E+00,, -0.091
 C,BA-140 ,NO , -9.123E+00, 1.122E+01, 1.860E+01,, -0.490
 C,LA-140 ,NO , 7.572E-02, 3.951E+00, 7.205E+00,, 0.011
 C,CE-141 ,NO , 1.382E+00, 5.796E+00, 1.002E+01,, 0.138
 C,CE-144 ,NO , 2.156E+00, 2.531E+01, 4.360E+01,, 0.049
 C,EU-152 ,NO , -3.637E+00, 1.132E+01, 1.692E+01,, -0.215
 C,EU-154 ,NO , 4.459E+00, 7.070E+00, 1.241E+01,, 0.359
 C,AC-228 ,NO , 1.419E+01, 1.322E+01, 2.277E+01,, 0.623
 C,U-235 ,NO , -2.439E+01, 2.649E+01, 4.384E+01,, -0.556
 C,U-238 ,NO , -1.581E+01, 3.062E+02, 5.749E+02,, -0.028
 C,AM-241 ,NO , 3.118E+00, 1.992E+01, 2.923E+01,, 0.107

Sec. Review: Analyst: LIMS: ✓

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VAX/VMS Teledyne Brown Eng. Laboratory Gamma Report: 10-AUG-2006 17:56:14.16

TBE07 P-10768B HpGe ***** Aquisition Date/Time: 10-AUG-2006 15:39:47.66

LIMS No., Customer Name, Client ID: WG L29515-5 DRESDEN

Sample ID : 07L29515-5 Smple Date: 8-AUG-2006 14:40:00.0

Sample Type : WG Geometry : 0735L090904

Quantity : 3.25740E+00 L BKGFILE : 07BG072806MT

Start Channel : 40 Energy Tol : 1.00000 Real Time : 0 02:16:15.62

End Channel : 4090 Pk Srch Sens: 5.00000 Live time : 0 02:16:13.95

MDA Constant : 0.00 Library Used: LIBD

| Pk | It | Energy | Area | Bkgnd | FWHM | Channel | %Eff | Cts/Sec | %Err | Fit |
|----|----|----------|------|-------|------|---------|----------|----------|------|----------|
| 1 | 1 | 140.02* | 83 | 233 | 1.58 | 281.23 | 2.09E+00 | 1.02E-02 | 37.2 | 1.71E+00 |
| 2 | 1 | 351.77* | 53 | 82 | 1.01 | 705.25 | 1.43E+00 | 6.44E-03 | 36.3 | 3.14E+00 |
| 3 | 1 | 595.56 | 46 | 53 | 1.84 | 1193.28 | 9.97E-01 | 5.61E-03 | 32.8 | 2.32E+00 |
| 4 | 1 | 608.95* | 103 | 49 | 2.19 | 1220.08 | 9.81E-01 | 1.26E-02 | 19.1 | 1.98E+00 |
| 5 | 1 | 1121.42 | 59 | 22 | 0.91 | 2245.57 | 6.25E-01 | 7.16E-03 | 23.9 | 2.21E+01 |
| 6 | 1 | 1460.71* | 23 | 15 | 2.64 | 2924.20 | 5.15E-01 | 2.84E-03 | 55.5 | 1.31E+00 |
| 7 | 1 | 1765.16* | 18 | 15 | 2.32 | 3532.94 | 4.54E-01 | 2.24E-03 | 53.4 | 7.28E-01 |

Flag: "*" = Peak area was modified by background subtraction

Nuclide Line Activity Report

Nuclide Type: natural

| Nuclide | Energy | Area | %Abn | %Eff | Uncorrected pCi/L | Decay Corr pCi/L | 2-Sigma %Error |
|---------|---------|------|--------|-----------|----------------------|---------------------|-------------------|
| K-40 | 1460.81 | 23 | 10.67* | 5.151E-01 | 4.291E+01 | 4.291E+01 | 111.04 |

Flag: "*" = Keyline

Summary of Nuclide Activity

Page : 2

Sample ID : 07L29515-5

Acquisition date : 10-AUG-2006 15:39:47

| | | |
|---|---|--------|
| Total number of lines in spectrum | 7 | |
| Number of unidentified lines | 6 | |
| Number of lines tentatively identified by NID | 1 | 14.29% |

Nuclide Type : natural

| Nuclide | Hlife | Decay | Uncorrected pCi/L | Decay Corr pCi/L | Decay Corr 2-Sigma Error | 2-Sigma %Error | Flags |
|------------------|-----------|-------|----------------------|---------------------|-----------------------------|-------------------|-------|
| K-40 | 1.28E+09Y | 1.00 | 4.291E+01 | 4.291E+01 | 4.765E+01 | 111.04 | |
| | | | ----- | ----- | | | |
| Total Activity : | | | 4.291E+01 | 4.291E+01 | | | |

| | | |
|------------------------|-----------|-----------|
| Grand Total Activity : | 4.291E+01 | 4.291E+01 |
|------------------------|-----------|-----------|

Flags: "K" = Keyline not found
 "E" = Manually edited

"M" = Manually accepted
 "A" = Nuclide specific abn. limit

Unidentified Energy Lines

Page : 3

Sample ID : 07L29515-5

Acquisition date : 10-AUG-2006 15:39:47

| It | Energy | Area | Bkgnd | FWHM | Channel | Left | Pw | Cts/Sec | %Err | %Eff | Flags |
|----|---------|------|-------|------|---------|------|----|----------|------|----------|-------|
| 1 | 140.02 | 83 | 233 | 1.58 | 281.23 | 276 | 10 | 1.02E-02 | 74.5 | 2.09E+00 | |
| 1 | 351.77 | 53 | 82 | 1.01 | 705.25 | 702 | 8 | 6.44E-03 | 72.6 | 1.43E+00 | |
| 1 | 595.56 | 46 | 53 | 1.84 | 1193.28 | 1188 | 10 | 5.61E-03 | 65.6 | 9.97E-01 | |
| 1 | 608.95 | 103 | 49 | 2.19 | 1220.08 | 1213 | 15 | 1.26E-02 | 38.3 | 9.81E-01 | |
| 1 | 1121.42 | 59 | 22 | 0.91 | 2245.57 | 2239 | 18 | 7.16E-03 | 47.9 | 6.25E-01 | |
| 1 | 1765.16 | 18 | 15 | 2.32 | 3532.94 | 3527 | 11 | 2.24E-03 | **** | 4.54E-01 | |

Flags: "T" = Tentatively associated

Summary of Nuclide Activity

| | |
|---|---------------|
| Total number of lines in spectrum | 7 |
| Number of unidentified lines | 6 |
| Number of lines tentatively identified by NID | 1 14.29% |

Nuclide Type : natural

| Nuclide | Hlife | Decay | Wtd Mean Uncorrected pCi/L | Wtd Mean Decay Corr pCi/L | Decay Corr 2-Sigma Error | 2-Sigma %Error | Flags |
|------------------|-----------|-------|----------------------------------|---------------------------------|-----------------------------|-------------------|-------|
| K-40 | 1.28E+09Y | 1.00 | 4.291E+01 | 4.291E+01 | 4.765E+01 | 111.04 | |
| Total Activity : | | | 4.291E+01 | 4.291E+01 | | | |

Grand Total Activity : 4.291E+01 4.291E+01

Flags: "K" = Keyline not found

"M" = Manually accepted

"E" = Manually edited

"A" = Nuclide specific abn. limit

Interference Report

No interference correction performed

Combined Activity-MDA Report

---- Identified Nuclides ----

| Nuclide | Activity (pCi/L) | Act error | MDA (pCi/L) | MDA error | Act/MDA |
|---------|---------------------|-----------|----------------|-----------|---------|
| K-40 | 4.291E+01 | 4.765E+01 | 3.541E+01 | 0.000E+00 | 1.212 |

---- Non-Identified Nuclides ----

| Nuclide | Key-Line Activity (pCi/L) | K.L. Ided | Act error | MDA (pCi/L) | MDA error | Act/MDA |
|---------|---------------------------------|--------------|-----------|----------------|-----------|---------|
| BE-7 | -3.730E+00 | | 2.054E+01 | 3.223E+01 | 0.000E+00 | -0.116 |
| NA-24 | 8.411E+00 | | 2.294E+01 | 3.964E+01 | 0.000E+00 | 0.212 |
| CR-51 | 1.509E+01 | | 2.099E+01 | 3.612E+01 | 0.000E+00 | 0.418 |
| MN-54 | 2.271E+00 | | 2.533E+00 | 4.489E+00 | 0.000E+00 | 0.506 |
| CO-57 | 1.878E+00 | | 2.194E+00 | 3.714E+00 | 0.000E+00 | 0.506 |

| | | | | | |
|---------|------------|-----------|-----------|-----------|--------|
| CO-58 | -9.852E-01 | 2.502E+00 | 3.883E+00 | 0.000E+00 | -0.254 |
| FE-59 | 3.421E+00 | 4.909E+00 | 8.771E+00 | 0.000E+00 | 0.390 |
| CO-60 | 2.315E+00 | 2.824E+00 | 5.092E+00 | 0.000E+00 | 0.455 |
| ZN-65 | -4.245E-01 | 6.425E+00 | 9.054E+00 | 0.000E+00 | -0.047 |
| SE-75 | 8.250E-01 | 3.122E+00 | 5.271E+00 | 0.000E+00 | 0.157 |
| SR-85 | -6.192E+00 | 3.179E+00 | 4.743E+00 | 0.000E+00 | -1.305 |
| Y-88 | 6.635E-01 | 2.400E+00 | 4.163E+00 | 0.000E+00 | 0.159 |
| NB-94 | -2.296E+00 | 2.325E+00 | 3.425E+00 | 0.000E+00 | -0.670 |
| NB-95 | 1.489E-02 | 2.405E+00 | 3.926E+00 | 0.000E+00 | 0.004 |
| ZR-95 | 8.903E-01 | 4.134E+00 | 6.912E+00 | 0.000E+00 | 0.129 |
| MO-99 | -1.866E+01 | 2.868E+01 | 4.336E+01 | 0.000E+00 | -0.430 |
| RU-103 | -3.197E+00 | 2.413E+00 | 3.618E+00 | 0.000E+00 | -0.884 |
| RU-106 | 5.493E+00 | 2.155E+01 | 3.659E+01 | 0.000E+00 | 0.150 |
| AG-110m | -3.210E-01 | 2.333E+00 | 3.800E+00 | 0.000E+00 | -0.084 |
| SN-113 | 1.605E+00 | 2.874E+00 | 4.878E+00 | 0.000E+00 | 0.329 |
| SB-124 | -1.712E+00 | 2.843E+00 | 3.792E+00 | 0.000E+00 | -0.451 |
| SB-125 | 1.380E+00 | 6.702E+00 | 1.099E+01 | 0.000E+00 | 0.126 |
| TE-129M | 1.132E+00 | 2.710E+01 | 4.357E+01 | 0.000E+00 | 0.026 |
| I-131 | -8.189E-01 | 2.924E+00 | 4.659E+00 | 0.000E+00 | -0.176 |
| BA-133 | 1.136E+00 | 3.384E+00 | 5.016E+00 | 0.000E+00 | 0.226 |
| CS-134 | -1.346E+00 | 2.583E+00 | 3.462E+00 | 0.000E+00 | -0.389 |
| CS-136 | 1.709E+00 | 2.655E+00 | 4.613E+00 | 0.000E+00 | 0.370 |
| CS-137 | 2.595E+00 | 2.732E+00 | 4.891E+00 | 0.000E+00 | 0.531 |
| CE-139 | 1.953E-01 | 2.377E+00 | 3.792E+00 | 0.000E+00 | 0.051 |
| BA-140 | 3.906E+00 | 9.353E+00 | 1.621E+01 | 0.000E+00 | 0.241 |
| LA-140 | -3.849E-02 | 3.106E+00 | 5.175E+00 | 0.000E+00 | -0.007 |
| CE-141 | 4.628E-01 | 3.935E+00 | 6.336E+00 | 0.000E+00 | 0.073 |
| CE-144 | -5.040E+00 | 1.810E+01 | 2.863E+01 | 0.000E+00 | -0.176 |
| EU-152 | -4.537E+00 | 6.976E+00 | 1.081E+01 | 0.000E+00 | -0.420 |
| EU-154 | -2.830E+00 | 4.725E+00 | 7.360E+00 | 0.000E+00 | -0.385 |
| RA-226 | -4.123E+00 | 6.051E+01 | 1.067E+02 | 0.000E+00 | -0.039 |
| AC-228 | 2.845E-01 | 1.107E+01 | 1.934E+01 | 0.000E+00 | 0.015 |
| TH-228 | -1.098E+00 | 4.625E+00 | 8.058E+00 | 0.000E+00 | -0.136 |
| TH-232 | 2.843E-01 | 1.106E+01 | 1.933E+01 | 0.000E+00 | 0.015 |
| U-235 | -3.591E+00 | 1.964E+01 | 2.782E+01 | 0.000E+00 | -0.129 |
| U-238 | -1.656E+02 | 2.663E+02 | 4.063E+02 | 0.000E+00 | -0.408 |
| AM-241 | -3.079E+00 | 2.136E+01 | 3.534E+01 | 0.000E+00 | -0.087 |

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A,07L29515-5      ,08/10/2006 17:56,08/08/2006 14:40,    3.257E+00,WG L29515-5 DR
B,07L29515-5      ,LIBD      ,08/07/2006 09:38,0735L090904
C,K-40      ,YES,    4.291E+01,    4.765E+01,    3.541E+01,,    1.212
C,BE-7      ,NO ,    -3.730E+00,    2.054E+01,    3.223E+01,,    -0.116
C,NA-24     ,NO ,    8.411E+00,    2.294E+01,    3.964E+01,,    0.212
C,CR-51     ,NO ,    1.509E+01,    2.099E+01,    3.612E+01,,    0.418
C,MN-54     ,NO ,    2.271E+00,    2.533E+00,    4.489E+00,,    0.506
C,CO-57     ,NO ,    1.878E+00,    2.194E+00,    3.714E+00,,    0.506
C,CO-58     ,NO ,    -9.852E-01,    2.502E+00,    3.883E+00,,    -0.254
C,FE-59     ,NO ,    3.421E+00,    4.909E+00,    8.771E+00,,    0.390
C,CO-60     ,NO ,    2.315E+00,    2.824E+00,    5.092E+00,,    0.455
C,ZN-65     ,NO ,    -4.245E-01,    6.425E+00,    9.054E+00,,    -0.047
C,SE-75     ,NO ,    8.250E-01,    3.122E+00,    5.271E+00,,    0.157
C,SR-85     ,NO ,    -6.192E+00,    3.179E+00,    4.743E+00,,    -1.305
C,Y-88      ,NO ,    6.635E-01,    2.400E+00,    4.163E+00,,    0.159
C,NB-94     ,NO ,    -2.296E+00,    2.325E+00,    3.425E+00,,    -0.670
C,NB-95     ,NO ,    1.489E-02,    2.405E+00,    3.926E+00,,    0.004
C,ZR-95     ,NO ,    8.903E-01,    4.134E+00,    6.912E+00,,    0.129
C,MO-99     ,NO ,    -1.866E+01,    2.868E+01,    4.336E+01,,    -0.430
C,RU-103    ,NO ,    -3.197E+00,    2.413E+00,    3.618E+00,,    -0.884
C,RU-106    ,NO ,    5.493E+00,    2.155E+01,    3.659E+01,,    0.150
C,AG-110m   ,NO ,    -3.210E-01,    2.333E+00,    3.800E+00,,    -0.084
C,SN-113    ,NO ,    1.605E+00,    2.874E+00,    4.878E+00,,    0.329
C,SB-124    ,NO ,    -1.712E+00,    2.843E+00,    3.792E+00,,    -0.451
C,SB-125    ,NO ,    1.380E+00,    6.702E+00,    1.099E+01,,    0.126
C,TE-129M   ,NO ,    1.132E+00,    2.710E+01,    4.357E+01,,    0.026
C,I-131     ,NO ,    -8.189E-01,    2.924E+00,    4.659E+00,,    -0.176
C,BA-133    ,NO ,    1.136E+00,    3.384E+00,    5.016E+00,,    0.226
C,CS-134    ,NO ,    -1.346E+00,    2.583E+00,    3.462E+00,,    -0.389
C,CS-136    ,NO ,    1.709E+00,    2.655E+00,    4.613E+00,,    0.370
C,CS-137    ,NO ,    2.595E+00,    2.732E+00,    4.891E+00,,    0.531
C,CE-139    ,NO ,    1.953E-01,    2.377E+00,    3.792E+00,,    0.051
C,BA-140    ,NO ,    3.906E+00,    9.353E+00,    1.621E+01,,    0.241
C,LA-140    ,NO ,    -3.849E-02,    3.106E+00,    5.175E+00,,    -0.007
C,CE-141    ,NO ,    4.628E-01,    3.935E+00,    6.336E+00,,    0.073
C,CE-144    ,NO ,    -5.040E+00,    1.810E+01,    2.863E+01,,    -0.176
C,EU-152    ,NO ,    -4.537E+00,    6.976E+00,    1.081E+01,,    -0.420
C,EU-154    ,NO ,    -2.830E+00,    4.725E+00,    7.360E+00,,    -0.385
C,RA-226    ,NO ,    -4.123E+00,    6.051E+01,    1.067E+02,,    -0.039
C,AC-228    ,NO ,    2.845E-01,    1.107E+01,    1.934E+01,,    0.015
C,TH-228    ,NO ,    -1.098E+00,    4.625E+00,    8.058E+00,,    -0.136
C,TH-232    ,NO ,    2.843E-01,    1.106E+01,    1.933E+01,,    0.015
C,U-235     ,NO ,    -3.591E+00,    1.964E+01,    2.782E+01,,    -0.129
C,U-238     ,NO ,    -1.656E+02,    2.663E+02,    4.063E+02,,    -0.408
C,AM-241    ,NO ,    -3.079E+00,    2.136E+01,    3.534E+01,,    -0.087

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Sec. Review: Analyst: LIMS:

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VAX/VMS Teledyne Brown Eng. Laboratory Gamma Report: 10-AUG-2006 17:54:40.04

TBE23 03017322 HpGe ***** Aquisition Date/Time: 10-AUG-2006 15:39:55.82

LIMS No., Customer Name, Client ID: WG L29515-6 DRESDEN

| | | | |
|---------------|-----------------|---------------|-----------------------|
| Sample ID | : 23L29515-6 | Smple Date: | 8-AUG-2006 16:50:00.0 |
| Sample Type | : WG | Geometry | : 233L082404 |
| Quantity | : 3.22790E+00 L | BKGFILE | : 23BG072806MT |
| Start Channel | : 50 | Energy Tol | : 1.00000 |
| End Channel | : 4090 | Pk Srch Sens: | 5.00000 |
| MDA Constant | : 0.00 | Library Used: | LIBD |
| | | Real Time | : 0 02:14:33.26 |
| | | Live time | : 0 02:14:27.75 |

| Pk | It | Energy | Area | Bkgnd | FWHM | Channel | %Eff | Cts/Sec | %Err | Fit |
|----|----|----------|------|-------|------|---------|----------|----------|-------|----------|
| 1 | 6 | 33.80* | 20 | 21 | 1.39 | 67.94 | 8.27E-02 | 2.48E-03 | 88.0 | 1.29E+00 |
| 2 | 6 | 35.96* | 62 | 99 | 1.86 | 72.25 | 1.18E-01 | 7.62E-03 | 42.0 | |
| 3 | 6 | 38.51* | 8 | 116 | 1.48 | 77.33 | 1.70E-01 | 1.00E-03 | 223.3 | |
| 4 | 0 | 41.13 | 27 | 136 | 0.65 | 82.56 | 2.35E-01 | 3.34E-03 | 70.8 | |
| 5 | 0 | 66.17 | 63 | 275 | 1.43 | 132.58 | 1.15E+00 | 7.77E-03 | 45.7 | |
| 6 | 0 | 92.54* | 22 | 302 | 0.96 | 185.26 | 1.94E+00 | 2.73E-03 | 144.7 | |
| 7 | 0 | 139.85* | 77 | 315 | 0.89 | 279.76 | 2.32E+00 | 9.50E-03 | 42.3 | |
| 8 | 0 | 186.19* | 38 | 292 | 1.03 | 372.35 | 2.17E+00 | 4.76E-03 | 89.9 | |
| 9 | 4 | 238.57* | 46 | 173 | 1.34 | 477.00 | 1.90E+00 | 5.69E-03 | 53.5 | 9.15E-01 |
| 10 | 4 | 242.33 | 88 | 228 | 1.82 | 484.51 | 1.88E+00 | 1.09E-02 | 35.1 | |
| 11 | 0 | 295.21* | 48 | 167 | 1.10 | 590.18 | 1.64E+00 | 5.92E-03 | 50.0 | |
| 12 | 0 | 351.42* | 131 | 167 | 1.30 | 702.52 | 1.44E+00 | 1.62E-02 | 22.5 | |
| 13 | 0 | 584.39 | 23 | 52 | 1.51 | 1168.23 | 9.70E-01 | 2.80E-03 | 67.7 | |
| 14 | 0 | 609.33* | 128 | 64 | 1.44 | 1218.11 | 9.40E-01 | 1.59E-02 | 16.5 | |
| 15 | 0 | 969.94 | 19 | 28 | 0.85 | 1939.49 | 6.79E-01 | 2.29E-03 | 59.6 | |
| 16 | 0 | 1120.50* | 40 | 17 | 1.92 | 2240.84 | 6.16E-01 | 4.94E-03 | 29.6 | |
| 17 | 0 | 1461.05* | 54 | 4 | 2.16 | 2922.82 | 5.10E-01 | 6.65E-03 | 24.5 | |

Flag: "*" = Peak area was modified by background subtraction

Nuclide Line Activity Report

Nuclide Type: natural

| Nuclide | Energy | Area | %Abn | %Eff | Uncorrected pCi/L | Decay Corr pCi/L | 2-Sigma %Error |
|---------|---------|-------|--------|-----------|----------------------|---------------------|-------------------|
| K-40 | 1460.81 | 54 | 10.67* | 5.095E-01 | 1.025E+02 | 1.025E+02 | 49.00 |
| RA-226 | 186.21 | 38 | 3.28* | 2.172E+00 | 5.594E+01 | 5.594E+01 | 179.83 |
| TH-228 | 238.63 | 46 | 44.60* | 1.900E+00 | 5.618E+00 | 5.629E+00 | 106.92 |
| | 240.98 | ----- | 3.95 | 1.888E+00 | ----- | Line Not Found | ----- |

Flag: "*" = Keyline

Summary of Nuclide Activity

Page : 2

Sample ID : 23L29515-6

Acquisition date : 10-AUG-2006 15:39:55

| | | |
|---|----|--------|
| Total number of lines in spectrum | 17 | |
| Number of unidentified lines | 13 | |
| Number of lines tentatively identified by NID | 4 | 23.53% |

Nuclide Type : natural

| Nuclide | Hlife | Decay | Uncorrected pCi/L | Decay Corr pCi/L | Decay Corr 2-Sigma Error | 2-Sigma %Error | Flags |
|------------------|-----------|-------|----------------------|---------------------|-----------------------------|-------------------|-------|
| K-40 | 1.28E+09Y | 1.00 | 1.025E+02 | 1.025E+02 | 0.502E+02 | 49.00 | |
| RA-226 | 1600.00Y | 1.00 | 5.594E+01 | 5.594E+01 | 10.06E+01 | 179.83 | |
| TH-228 | 1.91Y | 1.00 | 5.618E+00 | 5.629E+00 | 6.019E+00 | 106.92 | |
| | | | ----- | ----- | | | |
| Total Activity : | | | 1.640E+02 | 1.640E+02 | | | |

Grand Total Activity : 1.640E+02 1.640E+02

Flags: "K" = Keyline not found
 "E" = Manually edited

"M" = Manually accepted
 "A" = Nuclide specific abn. limit

Unidentified Energy Lines

Page : 3

Sample ID : 23L29515-6

Acquisition date : 10-AUG-2006 15:39:55

| It | Energy | Area | Bkgnd | FWHM | Channel | Left | Pw | Cts/Sec | %Err | %Eff | Flags |
|----|---------|------|-------|------|---------|------|----|----------|------|----------|-------|
| 6 | 33.80 | 20 | 21 | 1.39 | 67.94 | 64 | 17 | 2.48E-03 | **** | 8.27E-02 | |
| 6 | 35.96 | 62 | 99 | 1.86 | 72.25 | 64 | 17 | 7.62E-03 | 84.1 | 1.18E-01 | |
| 6 | 38.51 | 8 | 116 | 1.48 | 77.33 | 64 | 17 | 1.00E-03 | **** | 1.70E-01 | |
| 0 | 41.13 | 27 | 136 | 0.65 | 82.56 | 81 | 6 | 3.34E-03 | **** | 2.35E-01 | |
| 0 | 66.17 | 63 | 275 | 1.43 | 132.58 | 130 | 7 | 7.77E-03 | 91.4 | 1.15E+00 | |
| 0 | 92.54 | 22 | 302 | 0.96 | 185.26 | 182 | 7 | 2.73E-03 | **** | 1.94E+00 | |
| 0 | 139.85 | 77 | 315 | 0.89 | 279.76 | 276 | 8 | 9.50E-03 | 84.7 | 2.32E+00 | |
| 4 | 242.33 | 88 | 228 | 1.82 | 484.51 | 470 | 21 | 1.09E-02 | 70.2 | 1.88E+00 | |
| 0 | 295.21 | 48 | 167 | 1.10 | 590.18 | 587 | 8 | 5.92E-03 | **** | 1.64E+00 | |
| 0 | 351.42 | 131 | 167 | 1.30 | 702.52 | 698 | 13 | 1.62E-02 | 45.1 | 1.44E+00 | |
| 0 | 584.39 | 23 | 52 | 1.51 | 1168.23 | 1160 | 11 | 2.80E-03 | **** | 9.70E-01 | |
| 0 | 609.33 | 128 | 64 | 1.44 | 1218.11 | 1212 | 13 | 1.59E-02 | 33.0 | 9.40E-01 | |
| 0 | 969.94 | 19 | 28 | 0.85 | 1939.49 | 1932 | 11 | 2.29E-03 | **** | 6.79E-01 | T |
| 0 | 1120.50 | 40 | 17 | 1.92 | 2240.84 | 2234 | 13 | 4.94E-03 | 59.2 | 6.16E-01 | |

Flags: "T" = Tentatively associated

Summary of Nuclide Activity

| | |
|---|---------------|
| Total number of lines in spectrum | 17 |
| Number of unidentified lines | 13 |
| Number of lines tentatively identified by NID | 4 23.53% |

Nuclide Type : natural

| Nuclide | Hlife | Decay | Wtd Mean | Wtd Mean | Decay Corr | 2-Sigma | 2-Sigma Error | %Error | Flags |
|------------------|-----------|-------|--------------------|--------------------|------------|---------|---------------|--------|-------|
| | | | Uncorrected | Decay Corr | | | | | |
| K-40 | 1.28E+09Y | 1.00 | pCi/L 1.025E+02 | pCi/L 1.025E+02 | | | 0.502E+02 | 49.00 | |
| RA-226 | 1600.00Y | 1.00 | 5.594E+01 | 5.594E+01 | | | 10.06E+01 | 179.83 | |
| TH-228 | 1.91Y | 1.00 | 5.618E+00 | 5.629E+00 | | | 6.019E+00 | 106.92 | |
| | | | ----- | ----- | | | | | |
| Total Activity : | | | 1.640E+02 | 1.640E+02 | | | | | |

Grand Total Activity : 1.640E+02 1.640E+02

Flags: "K" = Keyline not found

"M" = Manually accepted

"E" = Manually edited

"A" = Nuclide specific abn. limit

Interference Report

No interference correction performed

Combined Activity-MDA Report

---- Identified Nuclides ----

| Nuclide | Activity (pCi/L) | Act error | MDA (pCi/L) | MDA error | Act/MDA |
|---------|---------------------|-----------|----------------|-----------|---------|
| K-40 | 1.025E+02 | 5.021E+01 | 3.575E+01 | 0.000E+00 | 2.866 |
| RA-226 | 5.594E+01 | 1.006E+02 | 1.027E+02 | 0.000E+00 | 0.544 |
| TH-228 | 5.629E+00 | 6.019E+00 | 7.946E+00 | 0.000E+00 | 0.708 |

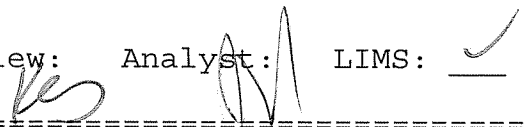
---- Non-Identified Nuclides ----

| Nuclide | Key-Line Activity (pCi/L) | K.L. Ided | Act error | MDA (pCi/L) | MDA error | Act/MDA |
|---------|---------------------------------|--------------|-----------|----------------|-----------|---------|
| BE-7 | -5.590E+00 | | 2.164E+01 | 3.665E+01 | 0.000E+00 | -0.153 |
| NA-24 | 2.080E-01 | | 1.903E+01 | 3.568E+01 | 0.000E+00 | 0.006 |
| CR-51 | 1.891E+01 | | 2.204E+01 | 4.019E+01 | 0.000E+00 | 0.470 |
| MN-54 | -8.889E-01 | | 2.403E+00 | 4.210E+00 | 0.000E+00 | -0.211 |
| CO-57 | 8.595E-01 | | 2.528E+00 | 4.489E+00 | 0.000E+00 | 0.191 |
| CO-58 | 1.354E+00 | | 2.327E+00 | 4.502E+00 | 0.000E+00 | 0.301 |
| FE-59 | -1.489E+00 | | 4.462E+00 | 7.796E+00 | 0.000E+00 | -0.191 |
| CO-60 | 7.940E-01 | | 2.442E+00 | 4.681E+00 | 0.000E+00 | 0.170 |
| ZN-65 | -3.187E+00 | | 5.476E+00 | 7.675E+00 | 0.000E+00 | -0.415 |
| SE-75 | 2.528E+00 | | 3.512E+00 | 6.314E+00 | 0.000E+00 | 0.400 |
| SR-85 | -1.084E+01 | | 3.369E+00 | 4.437E+00 | 0.000E+00 | -2.442 |
| Y-88 | 5.785E-01 | | 2.187E+00 | 4.519E+00 | 0.000E+00 | 0.128 |
| NB-94 | 1.337E+00 | | 2.229E+00 | 4.293E+00 | 0.000E+00 | 0.311 |
| NB-95 | -1.103E+00 | | 2.461E+00 | 4.285E+00 | 0.000E+00 | -0.257 |
| ZR-95 | -1.888E+00 | | 4.069E+00 | 7.099E+00 | 0.000E+00 | -0.266 |
| MO-99 | 1.203E+01 | | 2.942E+01 | 5.576E+01 | 0.000E+00 | 0.216 |
| RU-103 | -1.509E+00 | | 2.645E+00 | 4.346E+00 | 0.000E+00 | -0.347 |
| RU-106 | -3.056E+01 | | 2.491E+01 | 3.751E+01 | 0.000E+00 | -0.815 |
| AG-110m | 3.085E+00 | | 2.358E+00 | 4.775E+00 | 0.000E+00 | 0.646 |
| SN-113 | 1.803E+00 | | 3.048E+00 | 5.546E+00 | 0.000E+00 | 0.325 |
| SB-124 | -3.160E+00 | | 2.828E+00 | 3.880E+00 | 0.000E+00 | -0.814 |
| SB-125 | 4.634E-01 | | 7.365E+00 | 1.282E+01 | 0.000E+00 | 0.036 |
| TE-129M | -1.052E+01 | | 2.845E+01 | 4.783E+01 | 0.000E+00 | -0.220 |
| I-131 | 1.390E+00 | | 2.718E+00 | 4.927E+00 | 0.000E+00 | 0.282 |
| BA-133 | -3.775E+00 | | 4.124E+00 | 5.711E+00 | 0.000E+00 | -0.661 |
| CS-134 | -2.908E-01 | | 2.529E+00 | 3.767E+00 | 0.000E+00 | -0.077 |
| CS-136 | 7.903E-01 | | 2.132E+00 | 4.137E+00 | 0.000E+00 | 0.191 |
| CS-137 | -1.955E+00 | | 2.500E+00 | 4.241E+00 | 0.000E+00 | -0.461 |
| CE-139 | 6.134E-01 | | 2.558E+00 | 4.504E+00 | 0.000E+00 | 0.136 |
| BA-140 | -3.470E+00 | | 9.880E+00 | 1.655E+01 | 0.000E+00 | -0.210 |
| LA-140 | 7.106E-01 | | 2.839E+00 | 5.644E+00 | 0.000E+00 | 0.126 |
| CE-141 | 2.756E+00 | | 4.607E+00 | 7.987E+00 | 0.000E+00 | 0.345 |
| CE-144 | -5.044E+00 | | 1.872E+01 | 3.249E+01 | 0.000E+00 | -0.155 |
| EU-152 | -3.726E+00 | | 7.712E+00 | 1.295E+01 | 0.000E+00 | -0.288 |
| EU-154 | 2.888E+00 | | 5.285E+00 | 9.455E+00 | 0.000E+00 | 0.305 |
| AC-228 | 3.243E+00 | | 1.042E+01 | 1.985E+01 | 0.000E+00 | 0.163 |
| TH-232 | 3.241E+00 | | 1.041E+01 | 1.984E+01 | 0.000E+00 | 0.163 |
| U-235 | -4.018E+00 | | 2.332E+01 | 3.568E+01 | 0.000E+00 | -0.113 |
| U-238 | -1.037E+02 | | 2.461E+02 | 4.450E+02 | 0.000E+00 | -0.233 |
| AM-241 | -4.255E+00 | | 1.481E+01 | 2.437E+01 | 0.000E+00 | -0.175 |

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A,23L29515-6      ,08/10/2006 17:54,08/08/2006 16:50,    3.228E+00,WG L29515-6 DR
B,23L29515-6      ,LIBD      ,08/07/2006 09:53,233L082404
C,K-40      ,YES,    1.025E+02,    5.021E+01,    3.575E+01,,    2.866
C,RA-226    ,YES,    5.594E+01,    1.006E+02,    1.027E+02,,    0.544
C,TH-228    ,YES,    5.629E+00,    6.019E+00,    7.946E+00,,    0.708
C,BE-7      ,NO ,    -5.590E+00,    2.164E+01,    3.665E+01,,    -0.153
C,NA-24     ,NO ,    2.080E-01,    1.903E+01,    3.568E+01,,    0.006
C,CR-51     ,NO ,    1.891E+01,    2.204E+01,    4.019E+01,,    0.470
C,MN-54     ,NO ,    -8.889E-01,    2.403E+00,    4.210E+00,,    -0.211
C,CO-57     ,NO ,    8.595E-01,    2.528E+00,    4.489E+00,,    0.191
C,CO-58     ,NO ,    1.354E+00,    2.327E+00,    4.502E+00,,    0.301
C,FE-59     ,NO ,    -1.489E+00,    4.462E+00,    7.796E+00,,    -0.191
C,CO-60     ,NO ,    7.940E-01,    2.442E+00,    4.681E+00,,    0.170
C,ZN-65     ,NO ,    -3.187E+00,    5.476E+00,    7.675E+00,,    -0.415
C,SE-75     ,NO ,    2.528E+00,    3.512E+00,    6.314E+00,,    0.400
C,SR-85     ,NO ,    -1.084E+01,    3.369E+00,    4.437E+00,,    -2.442
C,Y-88      ,NO ,    5.785E-01,    2.187E+00,    4.519E+00,,    0.128
C,NB-94     ,NO ,    1.337E+00,    2.229E+00,    4.293E+00,,    0.311
C,NB-95     ,NO ,    -1.103E+00,    2.461E+00,    4.285E+00,,    -0.257
C,ZR-95     ,NO ,    -1.888E+00,    4.069E+00,    7.099E+00,,    -0.266
C,MO-99     ,NO ,    1.203E+01,    2.942E+01,    5.576E+01,,    0.216
C,RU-103    ,NO ,    -1.509E+00,    2.645E+00,    4.346E+00,,    -0.347
C,RU-106    ,NO ,    -3.056E+01,    2.491E+01,    3.751E+01,,    -0.815
C,AG-110m   ,NO ,    3.085E+00,    2.358E+00,    4.775E+00,,    0.646
C,SN-113    ,NO ,    1.803E+00,    3.048E+00,    5.546E+00,,    0.325
C,SB-124    ,NO ,    -3.160E+00,    2.828E+00,    3.880E+00,,    -0.814
C,SB-125    ,NO ,    4.634E-01,    7.365E+00,    1.282E+01,,    0.036
C,TE-129M   ,NO ,    -1.052E+01,    2.845E+01,    4.783E+01,,    -0.220
C,I-131     ,NO ,    1.390E+00,    2.718E+00,    4.927E+00,,    0.282
C,BA-133    ,NO ,    -3.775E+00,    4.124E+00,    5.711E+00,,    -0.661
C,CS-134    ,NO ,    -2.908E-01,    2.529E+00,    3.767E+00,,    -0.077
C,CS-136    ,NO ,    7.903E-01,    2.132E+00,    4.137E+00,,    0.191
C,CS-137    ,NO ,    -1.955E+00,    2.500E+00,    4.241E+00,,    -0.461
C,CE-139    ,NO ,    6.134E-01,    2.558E+00,    4.504E+00,,    0.136
C,BA-140    ,NO ,    -3.470E+00,    9.880E+00,    1.655E+01,,    -0.210
C,LA-140    ,NO ,    7.106E-01,    2.839E+00,    5.644E+00,,    0.126
C,CE-141    ,NO ,    2.756E+00,    4.607E+00,    7.987E+00,,    0.345
C,CE-144    ,NO ,    -5.044E+00,    1.872E+01,    3.249E+01,,    -0.155
C,EU-152    ,NO ,    -3.726E+00,    7.712E+00,    1.295E+01,,    -0.288
C,EU-154    ,NO ,    2.888E+00,    5.285E+00,    9.455E+00,,    0.305
C,AC-228    ,NO ,    3.243E+00,    1.042E+01,    1.985E+01,,    0.163
C,TH-232    ,NO ,    3.241E+00,    1.041E+01,    1.984E+01,,    0.163
C,U-235     ,NO ,    -4.018E+00,    2.332E+01,    3.568E+01,,    -0.113
C,U-238     ,NO ,    -1.037E+02,    2.461E+02,    4.450E+02,,    -0.233
C,AM-241    ,NO ,    -4.255E+00,    1.481E+01,    2.437E+01,,    -0.175

```

Sec. Review: Analyst: LIMS: 

=====

VAX/VMS Teledyne Brown Eng. Laboratory Gamma Report: 11-AUG-2006 09:17:45.73

TBE15 P-10635B HpGe ***** Aquisition Date/Time: 10-AUG-2006 18:10:10.68

LIMS No., Customer Name, Client ID: L29515-7 WG EX/DRES

| | | | |
|---------------|-----------------|---------------|-----------------------|
| Sample ID | : 15L29515-7 | Smple Date: | 8-AUG-2006 16:10:00.0 |
| Sample Type | : WG | Geometry | : 153L082604 |
| Quantity | : 2.85280E+00 L | BKGFILE | : 15BG072806MT |
| Start Channel | : 40 | Energy Tol | : 1.00000 |
| End Channel | : 4090 | Pk Srch Sens: | 5.00000 |
| MDA Constant | : 0.00 | Library Used: | LIBD |
| | | Real Time | : 0 08:00:03.17 |
| | | Live time | : 0 08:00:00.00 |

| Pk | It | Energy | Area | Bkgnd | FWHM | Channel | %Eff | Cts/Sec | %Err | Fit |
|----|----|----------|------|-------|------|---------|----------|----------|------|----------|
| 1 | 1 | 66.69* | 94 | 791 | 1.17 | 120.80 | 5.05E-01 | 3.27E-03 | 53.5 | 1.11E+00 |
| 2 | 1 | 140.04* | 194 | 876 | 1.65 | 268.44 | 1.66E+00 | 6.73E-03 | 29.3 | 2.05E+00 |
| 3 | 1 | 295.26* | 221 | 455 | 1.58 | 580.83 | 1.18E+00 | 7.67E-03 | 21.2 | 2.56E+00 |
| 4 | 1 | 351.53* | 279 | 344 | 1.43 | 694.07 | 1.02E+00 | 9.70E-03 | 15.2 | 3.16E+00 |
| 5 | 1 | 595.72 | 92 | 185 | 1.79 | 1185.29 | 6.54E-01 | 3.18E-03 | 30.6 | 5.43E-01 |
| 6 | 1 | 608.62* | 192 | 328 | 1.59 | 1211.22 | 6.43E-01 | 6.66E-03 | 24.9 | 1.06E+00 |
| 7 | 1 | 1460.90* | 57 | 45 | 3.11 | 2924.08 | 3.23E-01 | 1.98E-03 | 40.4 | 1.26E+00 |

Flag: "*" = Peak area was modified by background subtraction

Nuclide Line Activity Report

Nuclide Type: natural

| Nuclide | Energy | Area | %Abn | %Eff | Uncorrected pCi/L | Decay Corr pCi/L | 2-Sigma %Error |
|---------|---------|------|--------|-----------|----------------------|---------------------|-------------------|
| K-40 | 1460.81 | 57 | 10.67* | 3.225E-01 | 5.458E+01 | 5.458E+01 | 80.76 |

Flag: "*" = Keyline

Summary of Nuclide Activity

Page : 2

Sample ID : 15L29515-7

Acquisition date : 10-AUG-2006 18:10:10

| | | |
|---|---|--------|
| Total number of lines in spectrum | 7 | |
| Number of unidentified lines | 6 | |
| Number of lines tentatively identified by NID | 1 | 14.29% |

Nuclide Type : natural

| Nuclide | Hlife | Decay | Uncorrected pCi/L | Decay Corr pCi/L | Decay Corr 2-Sigma Error | 2-Sigma %Error | Flags |
|---------|-----------|------------------|----------------------|---------------------|-----------------------------|-------------------|-------|
| K-40 | 1.28E+09Y | 1.00 | 5.458E+01 | 5.458E+01 | 4.408E+01 | 80.76 | |
| | | | ----- | ----- | | | |
| | | Total Activity : | 5.458E+01 | 5.458E+01 | | | |

| | | |
|------------------------|-----------|-----------|
| Grand Total Activity : | 5.458E+01 | 5.458E+01 |
|------------------------|-----------|-----------|

Flags: "K" = Keyline not found
 "E" = Manually edited

"M" = Manually accepted
 "A" = Nuclide specific abn. limit

Unidentified Energy Lines

Page : 3

Sample ID : 15L29515-7

Acquisition date : 10-AUG-2006 18:10:10

| It | Energy | Area | Bkgnd | FWHM | Channel | Left | Pw | Cts/Sec | %Err | %Eff | Flags |
|----|--------|------|-------|------|---------|------|----|----------|------|----------|-------|
| 1 | 66.69 | 94 | 791 | 1.17 | 120.80 | 118 | 7 | 3.27E-03 | **** | 5.05E-01 | |
| 1 | 140.04 | 194 | 876 | 1.65 | 268.44 | 264 | 9 | 6.73E-03 | 58.6 | 1.66E+00 | |
| 1 | 295.26 | 221 | 455 | 1.58 | 580.83 | 576 | 11 | 7.67E-03 | 42.4 | 1.18E+00 | |
| 1 | 351.53 | 279 | 344 | 1.43 | 694.07 | 690 | 10 | 9.70E-03 | 30.5 | 1.02E+00 | |
| 1 | 595.72 | 92 | 185 | 1.79 | 1185.29 | 1180 | 11 | 3.18E-03 | 61.2 | 6.54E-01 | |
| 1 | 608.62 | 192 | 328 | 1.59 | 1211.22 | 1202 | 18 | 6.66E-03 | 49.8 | 6.43E-01 | |

Flags: "T" = Tentatively associated

Summary of Nuclide Activity

| | |
|---|---------------|
| Total number of lines in spectrum | 7 |
| Number of unidentified lines | 6 |
| Number of lines tentatively identified by NID | 1 14.29% |

Nuclide Type : natural

| Nuclide | Hlife | Decay | Wtd Mean Uncorrected pCi/L | Wtd Mean Decay Corr pCi/L | Decay Corr 2-Sigma Error | 2-Sigma %Error | Flags |
|------------------|-----------|-------|----------------------------------|---------------------------------|-----------------------------|-------------------|-------|
| K-40 | 1.28E+09Y | 1.00 | 5.458E+01 | 5.458E+01 | 4.408E+01 | 80.76 | |
| Total Activity : | | | 5.458E+01 | 5.458E+01 | | | |

Grand Total Activity : 5.458E+01 5.458E+01

Flags: "K" = Keyline not found
"E" = Manually edited

"M" = Manually accepted
"A" = Nuclide specific abn. limit

Interference Report

No interference correction performed

Combined Activity-MDA Report

---- Identified Nuclides ----

| Nuclide | Activity (pCi/L) | Act error | MDA (pCi/L) | MDA error | Act/MDA |
|---------|---------------------|-----------|----------------|-----------|---------|
| K-40 | 5.458E+01 | 4.408E+01 | 3.093E+01 | 0.000E+00 | 1.765 |

---- Non-Identified Nuclides ----

| Nuclide | Key-Line Activity (pCi/L) | K.L. Ided | Act error | MDA (pCi/L) | MDA error | Act/MDA |
|---------|---------------------------------|--------------|-----------|----------------|-----------|---------|
| BE-7 | 1.758E+01 | | 1.722E+01 | 3.010E+01 | 0.000E+00 | 0.584 |
| NA-24 | 9.001E-01 | | 2.375E+01 | 3.964E+01 | 0.000E+00 | 0.023 |
| CR-51 | -9.052E+00 | | 1.762E+01 | 2.774E+01 | 0.000E+00 | -0.326 |
| MN-54 | 5.997E-03 | | 2.098E+00 | 3.424E+00 | 0.000E+00 | 0.002 |
| CO-57 | 1.601E+00 | | 1.966E+00 | 3.320E+00 | 0.000E+00 | 0.482 |

| | | | | | |
|---------|------------|-----------|-----------|-----------|--------|
| CO-58 | 1.036E+00 | 2.049E+00 | 3.459E+00 | 0.000E+00 | 0.300 |
| FE-59 | -3.765E+00 | 4.065E+00 | 6.032E+00 | 0.000E+00 | -0.624 |
| CO-60 | -3.848E-01 | 2.062E+00 | 3.378E+00 | 0.000E+00 | -0.114 |
| ZN-65 | -1.172E+01 | 5.073E+00 | 6.690E+00 | 0.000E+00 | -1.752 |
| SE-75 | 3.412E+00 | 2.678E+00 | 4.522E+00 | 0.000E+00 | 0.755 |
| SR-85 | -1.149E+01 | 2.520E+00 | 3.485E+00 | 0.000E+00 | -3.297 |
| Y-88 | -1.723E-01 | 2.226E+00 | 3.605E+00 | 0.000E+00 | -0.048 |
| NB-94 | 1.120E+00 | 1.996E+00 | 3.389E+00 | 0.000E+00 | 0.330 |
| NB-95 | 4.093E-01 | 2.026E+00 | 3.362E+00 | 0.000E+00 | 0.122 |
| ZR-95 | -2.835E-01 | 3.433E+00 | 5.599E+00 | 0.000E+00 | -0.051 |
| MO-99 | -1.046E+00 | 2.525E+01 | 4.134E+01 | 0.000E+00 | -0.025 |
| RU-103 | 1.097E+00 | 2.010E+00 | 3.445E+00 | 0.000E+00 | 0.318 |
| RU-106 | -6.888E+00 | 1.831E+01 | 2.965E+01 | 0.000E+00 | -0.232 |
| AG-110m | 4.924E-01 | 2.018E+00 | 3.377E+00 | 0.000E+00 | 0.146 |
| SN-113 | 7.713E-01 | 2.542E+00 | 4.338E+00 | 0.000E+00 | 0.178 |
| SB-124 | -7.551E-01 | 2.467E+00 | 3.261E+00 | 0.000E+00 | -0.232 |
| SB-125 | -2.235E+00 | 5.730E+00 | 9.475E+00 | 0.000E+00 | -0.236 |
| TE-129M | -6.203E+00 | 2.340E+01 | 3.877E+01 | 0.000E+00 | -0.160 |
| I-131 | 1.345E+00 | 2.455E+00 | 4.022E+00 | 0.000E+00 | 0.334 |
| BA-133 | 1.867E+00 | 3.149E+00 | 4.552E+00 | 0.000E+00 | 0.410 |
| CS-134 | 2.738E+00 | 2.204E+00 | 3.458E+00 | 0.000E+00 | 0.792 |
| CS-136 | 5.690E-01 | 2.140E+00 | 3.560E+00 | 0.000E+00 | 0.160 |
| CS-137 | -1.500E-01 | 2.238E+00 | 3.679E+00 | 0.000E+00 | -0.041 |
| CE-139 | -5.511E-01 | 1.891E+00 | 3.083E+00 | 0.000E+00 | -0.179 |
| BA-140 | 3.237E+00 | 7.909E+00 | 1.344E+01 | 0.000E+00 | 0.241 |
| LA-140 | -8.374E-03 | 2.352E+00 | 3.877E+00 | 0.000E+00 | -0.002 |
| CE-141 | 1.861E+00 | 3.631E+00 | 5.634E+00 | 0.000E+00 | 0.330 |
| CE-144 | 9.018E-01 | 1.464E+01 | 2.423E+01 | 0.000E+00 | 0.037 |
| EU-152 | 7.395E-01 | 6.393E+00 | 1.030E+01 | 0.000E+00 | 0.072 |
| EU-154 | 3.333E-01 | 4.387E+00 | 6.951E+00 | 0.000E+00 | 0.048 |
| RA-226 | -2.336E+01 | 5.418E+01 | 8.357E+01 | 0.000E+00 | -0.280 |
| AC-228 | 2.844E+00 | 8.302E+00 | 1.340E+01 | 0.000E+00 | 0.212 |
| TH-228 | -3.099E+00 | 4.314E+00 | 6.653E+00 | 0.000E+00 | -0.466 |
| TH-232 | 2.842E+00 | 8.296E+00 | 1.339E+01 | 0.000E+00 | 0.212 |
| U-235 | 6.998E+00 | 1.760E+01 | 2.515E+01 | 0.000E+00 | 0.278 |
| U-238 | -1.154E+02 | 2.637E+02 | 4.045E+02 | 0.000E+00 | -0.285 |
| AM-241 | -1.480E+01 | 2.226E+01 | 3.685E+01 | 0.000E+00 | -0.402 |

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A,15L29515-7      ,08/11/2006 09:17,08/08/2006 16:10,      2.853E+00,L29515-7 WG EX
B,15L29515-7      ,LIBD      ,08/07/2006 09:53,153L082604
C,K-40      ,YES,      5.458E+01,      4.408E+01,      3.093E+01,,      1.765
C,BE-7      ,NO ,      1.758E+01,      1.722E+01,      3.010E+01,,      0.584
C,NA-24      ,NO ,      9.001E-01,      2.375E+01,      3.964E+01,,      0.023
C,CR-51      ,NO ,      -9.052E+00,      1.762E+01,      2.774E+01,,      -0.326
C,MN-54      ,NO ,      5.997E-03,      2.098E+00,      3.424E+00,,      0.002
C,CO-57      ,NO ,      1.601E+00,      1.966E+00,      3.320E+00,,      0.482
C,CO-58      ,NO ,      1.036E+00,      2.049E+00,      3.459E+00,,      0.300
C,FE-59      ,NO ,      -3.765E+00,      4.065E+00,      6.032E+00,,      -0.624
C,CO-60      ,NO ,      -3.848E-01,      2.062E+00,      3.378E+00,,      -0.114
C,ZN-65      ,NO ,      -1.172E+01,      5.073E+00,      6.690E+00,,      -1.752
C,SE-75      ,NO ,      3.412E+00,      2.678E+00,      4.522E+00,,      0.755
C,SR-85      ,NO ,      -1.149E+01,      2.520E+00,      3.485E+00,,      -3.297
C,Y-88      ,NO ,      -1.723E-01,      2.226E+00,      3.605E+00,,      -0.048
C,NB-94      ,NO ,      1.120E+00,      1.996E+00,      3.389E+00,,      0.330
C,NB-95      ,NO ,      4.093E-01,      2.026E+00,      3.362E+00,,      0.122
C,ZR-95      ,NO ,      -2.835E-01,      3.433E+00,      5.599E+00,,      -0.051
C,MO-99      ,NO ,      -1.046E+00,      2.525E+01,      4.134E+01,,      -0.025
C,RU-103      ,NO ,      1.097E+00,      2.010E+00,      3.445E+00,,      0.318
C,RU-106      ,NO ,      -6.888E+00,      1.831E+01,      2.965E+01,,      -0.232
C,AG-110m      ,NO ,      4.924E-01,      2.018E+00,      3.377E+00,,      0.146
C,SN-113      ,NO ,      7.713E-01,      2.542E+00,      4.338E+00,,      0.178
C,SB-124      ,NO ,      -7.551E-01,      2.467E+00,      3.261E+00,,      -0.232
C,SB-125      ,NO ,      -2.235E+00,      5.730E+00,      9.475E+00,,      -0.236
C,TE-129M      ,NO ,      -6.203E+00,      2.340E+01,      3.877E+01,,      -0.160
C,I-131      ,NO ,      1.345E+00,      2.455E+00,      4.022E+00,,      0.334
C,BA-133      ,NO ,      1.867E+00,      3.149E+00,      4.552E+00,,      0.410
C,CS-134      ,NO ,      2.738E+00,      2.204E+00,      3.458E+00,,      0.792
C,CS-136      ,NO ,      5.690E-01,      2.140E+00,      3.560E+00,,      0.160
C,CS-137      ,NO ,      -1.500E-01,      2.238E+00,      3.679E+00,,      -0.041
C,CE-139      ,NO ,      -5.511E-01,      1.891E+00,      3.083E+00,,      -0.179
C,BA-140      ,NO ,      3.237E+00,      7.909E+00,      1.344E+01,,      0.241
C,LA-140      ,NO ,      -8.374E-03,      2.352E+00,      3.877E+00,,      -0.002
C,CE-141      ,NO ,      1.861E+00,      3.631E+00,      5.634E+00,,      0.330
C,CE-144      ,NO ,      9.018E-01,      1.464E+01,      2.423E+01,,      0.037
C,EU-152      ,NO ,      7.395E-01,      6.393E+00,      1.030E+01,,      0.072
C,EU-154      ,NO ,      3.333E-01,      4.387E+00,      6.951E+00,,      0.048
C,RA-226      ,NO ,      -2.336E+01,      5.418E+01,      8.357E+01,,      -0.280
C,AC-228      ,NO ,      2.844E+00,      8.302E+00,      1.340E+01,,      0.212
C,TH-228      ,NO ,      -3.099E+00,      4.314E+00,      6.653E+00,,      -0.466
C,TH-232      ,NO ,      2.842E+00,      8.296E+00,      1.339E+01,,      0.212
C,U-235      ,NO ,      6.998E+00,      1.760E+01,      2.515E+01,,      0.278
C,U-238      ,NO ,      -1.154E+02,      2.637E+02,      4.045E+02,,      -0.285
C,AM-241      ,NO ,      -1.480E+01,      2.226E+01,      3.685E+01,,      -0.402

```



2508 Quality Lane
Knoxville, TN 37931
865-690-6819 (Phone)

Work Order #: L29543

Exelon

August 15, 2006



**TELEDYNE
BROWN ENGINEERING, INC.**

A Teledyne Technologies Company
2508 Quality Lane
Knoxville, TN 37931-3133

Kathy Shaw
Conestoga-Rovers & Associates
45 Farmington Valley Road
Plainville CT 06062

**Case Narrative - L29543
EX001-3ESPDRES-06**

08/16/2006 09:41

Sample Receipt

The following samples were received on August 10, 2006 in good condition, unless otherwise noted.

Cross Reference Table

| Client ID | Laboratory ID | Station ID(if applicable) |
|--------------------------------|---------------|---------------------------|
| WG-DN-MW-DN-113S-080906-GL-008 | L29543-1 | |
| WG-DN-MW-DN-113I-080906-GL-009 | L29543-2 | |
| WG-DN-MW-DN-113I-080906-GL-010 | L29543-3 | |
| WG-DN-MW-DN-116I-080906-GL-011 | L29543-4 | |
| WG-DN-MW-DN-116S-080906-GL-012 | L29543-5 | |

Analytical Method Cross Reference Table

| Radiological Parameter | TBE Knoxville Method | Reference Method |
|------------------------|----------------------|------------------|
| Gamma Spectrometry | TBE-2007 | EPA 901.1 |
| H-3 (DIST) | TBE-2010 | |
| TOTAL SR | TBE-2018 | EPA 905.0 |



Case Narrative - L29543
EX001-3ESPDRES-06

08/16/2006 09:41

Gamma Spectroscopy

Quality Control

Quality control samples were analyzed as WG4304.

Duplicate Sample

Duplicates were analyzed for the following samples. All duplicate results were within acceptance limits, unless otherwise noted.

| <u>Client ID</u> | <u>Laboratory ID</u> | <u>QC Sample #</u> |
|-------------------------------|----------------------|--------------------|
| WG-DN-MW-DN-113I080906-GL-009 | L29543-2 | WG4304-1 |

H-3 (DIST)

Quality Control

Quality control samples were analyzed as WG4307.

Method Blank

All blanks were within acceptance limits, unless otherwise noted.

Laboratory Control Sample

All laboratory control samples were within acceptance limits, unless otherwise noted.

Duplicate Sample

Duplicates were analyzed for the following samples. All duplicate results were within acceptance limits, unless otherwise noted.

| <u>Client ID</u> | <u>Laboratory ID</u> | <u>QC Sample #</u> |
|--------------------------------|----------------------|--------------------|
| WG-DN-MW-DN-113S-080906-GL-008 | L29543-1 | WG4307-3 |

TOTAL SR

Quality Control

Quality control samples were analyzed as WG4318.

Method Blank

All blanks were within acceptance limits, unless otherwise noted.

Laboratory Control Sample

All laboratory control samples were within acceptance limits, unless otherwise noted.



Case Narrative - L29543
EX001-3ESPDRES-06

08/16/2006 09:41

Certification

This is to certify that Teledyne Brown Engineering - Environmental Services, located at 2508 Quality Lane, Knoxville, Tennessee, 37931, has analyzed, tested and documented samples as specified in the applicable purchase order.

This also certifies that requirements of applicable codes, standards and specifications have been fully met and that any quality assurance documentation which verified conformance to the purchase order is on file and may be examined upon request.

I hereby certify that the above statements are true and correct.

A handwritten signature in black ink, reading "Keith Jeter", is written over a horizontal line.

Keith Jeter
Operations Manager

Sample Receipt Summary

08/10/06 09:58

Teledyne Brown Engineering
Sample Receipt Verification/Variance Report

SR #: SR09852

Client: Exelon

Project #: EX001-3ESPDRES-06

LIMS #: L29543

Initiated By: PMARSHALL

Init Date: 08/10/06 Receive Date: 08/10/06

Notification of Variance

Person Notified:

Contacted By:

Notify Date:

Notify Method:

Notify Comment:

Client Response

Person Responding:

Response Date:

Response Method:

Response Comment

| Criteria | Yes | No | NA | Comment |
|--|-----|----|----|---|
| 1 Shipping container custody seals present and intact. | | | NA | |
| 2 Sample container custody seals present and intact. | | | NA | |
| 3 Sample containers received in good condition | | | Y | |
| 4 Chain of custody received with samples | | | Y | |
| 5 All samples listed on chain of custody received | | | Y | |
| 6 Sample container labels present and legible. | | | Y | |
| 7 Information on container labels correspond with chain of custody | | | Y | |
| 8 Sample(s) properly preserved and in appropriate container(s) | | | N | Samples required pH adjustment to get them at or below 2. |
| 9 Other (Describe) | | | NA | |

TELEDYNE BROWN ENGINEERING
2508 Quality Lane
Knoxville, TN 37931-3133

AUG 10 2006

ACKNOWLEDGEMENT

This is not an invoice

August 10, 2006

Kathy Shaw
Conestoga-Rovers & Associates
45 Farmington Valley Road
Plainville, CT 06062

The following sample(s) were received at Teledyne Brown Engineering Knoxville laboratory on August 10, 2006. The sample(s) have been scheduled for the analyses listed below and the report is scheduled for completion by August 15, 2006. Please review the following login information and pricing. Contact me if anything is incorrect or you have questions about the status of your sample(s).

Thank you for choosing Teledyne Brown Engineering for your analytical needs.

Sincerely,
Rebecca Charles
Project Manager
(865) 934-0379

Project ID: EX001-3ESPDRES-06
P.O. #: 00411203
Release #:
Contract#: 00411203
Kathy Shaw, FAX#: 860-747-1900, larry.walton@exeloncorp.com

| Client ID/ Station | Laboratory ID Analysis | Vol/Units Price | Start Collect Date/Time | End Collect Date/Time |
|---------------------------------------|---------------------------|--------------------|----------------------------|--------------------------|
| WG-DN-MW-DN-113S-080906-GL-0 L29543-1 | | | 08/09/06:1000 | |
| WG | GELI | 135.00 | | |
| WG | H-3 (DIST) | 135.00 | | |
| WG | SR-90 (FAST) | 175.00 | | |
| WG-DN-MW-DN-113I080906-GL-00 L29543-2 | | | 08/09/06:1125 | |
| WG | GELI | 135.00 | | |
| WG | H-3 (DIST) | 135.00 | | |
| WG | SR-90 (FAST) | 175.00 | | |
| WG-DN-MW-DN-113I-080906-GL-0 L29543-3 | | | 08/09/06:1145 | |
| WG | GELI | 135.00 | | |
| WG | H-3 (DIST) | 135.00 | | |
| WG | SR-90 (FAST) | 175.00 | | |
| WG-DN-MW-DN-116I-080906-GL-0 L29543-4 | | | 08/09/06:1335 | |
| WG | GELI | 135.00 | | |
| WG | H-3 (DIST) | 135.00 | | |
| WG | SR-90 (FAST) | 175.00 | | |
| WG-DN-MW-DN-116S-080906-GL-0 L29543-5 | | | 08/09/06:1350 | |

| Client ID/ Station | Laboratory ID Analysis | Vol/Units Price | Start Collect Date/Time | End Collect Date/Time |
|-----------------------|---------------------------|--------------------|----------------------------|--------------------------|
| WG | GELI | 135.00 | | |
| WG | H-3 (DIST) | 135.00 | | |
| WG | SR-90 (FAST) | 175.00 | | |

End of document

Internal Chain of Custody

Internal Chain of Custody

 Sample # L29543-1 Containernum 1

Prod Analyst
 GELI DW
 H-3 (DIST) DW
 SR-90 (FAST) LCB

| Relinquish Date | Relinquish By | | Received By |
|------------------|---------------|------------------|------------------------------|
| 08/10/2006 00:00 | | | 099999 Sample Custodian |
| 08/10/2006 12:23 | 099999 | Sample Custodian | 030854 Donna Webb |
| 08/11/2006 11:05 | 030854 | Donna Webb | 099999 Sample Custodian |

 Sample # L29543-1 Containernum 2

Prod Analyst
 GELI DW
 H-3 (DIST) DW
 SR-90 (FAST) LCB

| Relinquish Date | Relinquish By | | Received By |
|------------------|---------------|------------------|------------------------------|
| 08/10/2006 00:00 | | | 099999 Sample Custodian |
| 08/10/2006 12:23 | 030854 | Donna Webb | 029728 Lauren Larsen |
| 08/10/2006 12:23 | 099999 | Sample Custodian | 030854 Donna Webb |
| 08/14/2006 08:05 | 029728 | Lauren Larsen | 030854 Donna Webb |
| 08/14/2006 08:06 | 030854 | Donna Webb | 099999 Sample Custodian |

 Sample # L29543-2 Containernum 1

Prod Analyst
 GELI DW
 H-3 (DIST) DW
 SR-90 (FAST) LCB

| Relinquish Date | Relinquish By | | Received By |
|------------------|---------------|------------------|------------------------------|
| 08/10/2006 00:00 | | | 099999 Sample Custodian |
| 08/10/2006 12:23 | 099999 | Sample Custodian | 030854 Donna Webb |
| 08/11/2006 11:05 | 030854 | Donna Webb | 099999 Sample Custodian |

 Sample # L29543-2 Containernum 2

Prod Analyst
 GELI DW
 H-3 (DIST) DW
 SR-90 (FAST) LCB

| Relinquish Date | Relinquish By | | Received By |
|------------------|---------------|------------------|------------------------------|
| 08/10/2006 00:00 | | | 099999 Sample Custodian |
| 08/10/2006 12:23 | 030854 | Donna Webb | 029728 Lauren Larsen |
| 08/10/2006 12:23 | 099999 | Sample Custodian | 030854 Donna Webb |
| 08/14/2006 08:05 | 029728 | Lauren Larsen | 030854 Donna Webb |
| 08/14/2006 08:06 | 030854 | Donna Webb | 099999 Sample Custodian |

 Sample # L29543-3 Containernum 1

Prod Analyst

Internal Chain of Custody

 Sample # L29543-3 Containernum 1

GELI DW
 H-3 (DIST) DW
 SR-90 (FAST) LCB

| Relinquish Date | Relinquish By | | Received By | |
|------------------|---------------|------------------|-------------|------------------|
| 08/10/2006 00:00 | | | 099999 | Sample Custodian |
| 08/10/2006 12:23 | 099999 | Sample Custodian | 030854 | Donna Webb |
| 08/11/2006 11:05 | 030854 | Donna Webb | 099999 | Sample Custodian |

 Sample # L29543-3 Containernum 2

Prod Analyst
 GELI DW
 H-3 (DIST) DW
 SR-90 (FAST) LCB

| Relinquish Date | Relinquish By | | Received By | |
|------------------|---------------|------------------|-------------|------------------|
| 08/10/2006 00:00 | | | 099999 | Sample Custodian |
| 08/10/2006 12:23 | 030854 | Donna Webb | 029728 | Lauren Larsen |
| 08/10/2006 12:23 | 099999 | Sample Custodian | 030854 | Donna Webb |
| 08/14/2006 08:05 | 029728 | Lauren Larsen | 030854 | Donna Webb |
| 08/14/2006 08:06 | 030854 | Donna Webb | 099999 | Sample Custodian |

 Sample # L29543-4 Containernum 1

Prod Analyst
 GELI DW
 H-3 (DIST) DW
 SR-90 (FAST) LCB

| Relinquish Date | Relinquish By | | Received By | |
|------------------|---------------|------------------|-------------|------------------|
| 08/10/2006 00:00 | | | 099999 | Sample Custodian |
| 08/10/2006 12:23 | 099999 | Sample Custodian | 030854 | Donna Webb |
| 08/11/2006 11:05 | 030854 | Donna Webb | 099999 | Sample Custodian |

 Sample # L29543-4 Containernum 2

Prod Analyst
 GELI DW
 H-3 (DIST) DW
 SR-90 (FAST) LCB

| Relinquish Date | Relinquish By | | Received By | |
|------------------|---------------|------------------|-------------|------------------|
| 08/10/2006 00:00 | | | 099999 | Sample Custodian |
| 08/10/2006 12:23 | 030854 | Donna Webb | 029728 | Lauren Larsen |
| 08/10/2006 12:23 | 099999 | Sample Custodian | 030854 | Donna Webb |
| 08/14/2006 08:05 | 029728 | Lauren Larsen | 030854 | Donna Webb |
| 08/14/2006 08:06 | 030854 | Donna Webb | 099999 | Sample Custodian |

 Sample # L29543-5 Containernum 1

Prod Analyst

Internal Chain of Custody

 Sample # L29543-5 Containernum 1

GELI DW
 H-3 (DIST) DW
 SR-90 (FAST) LCB

| Relinquish Date | Relinquish By | | Received By |
|------------------|---------------|------------------|------------------------------|
| 08/10/2006 00:00 | | | 099999 Sample Custodian |
| 08/10/2006 12:23 | 099999 | Sample Custodian | 030854 Donna Webb |
| 08/11/2006 11:05 | 030854 | Donna Webb | 099999 Sample Custodian |

 Sample # L29543-5 Containernum 2

Prod Analyst
 GELI DW
 H-3 (DIST) DW
 SR-90 (FAST) LCB

| Relinquish Date | Relinquish By | | Received By |
|------------------|---------------|------------------|------------------------------|
| 08/10/2006 00:00 | | | 099999 Sample Custodian |
| 08/10/2006 12:23 | 030854 | Donna Webb | 029728 Lauren Larsen |
| 08/10/2006 12:23 | 099999 | Sample Custodian | 030854 Donna Webb |
| 08/14/2006 08:05 | 029728 | Lauren Larsen | 030854 Donna Webb |
| 08/14/2006 08:06 | 030854 | Donna Webb | 099999 Sample Custodian |

08/16/06

Teledyne Brown Engineering
Internal Chain of Custody
Supplemental Sheet

L29543

L29543-1 WG WG-DN-MW-DN-113S-080906-GL-008

| <u>Process step</u> | <u>Prod</u> | <u>Analyst</u> | <u>Date</u> |
|---------------------|--------------|----------------|-------------|
| Login | | RCHARLES | 08/10/06 |
| Aliquot | GELI | DW | 08/10/06 |
| Aliquot | H-3 (DIST) | DW | 08/11/06 |
| Aliquot | SR-90 (FAST) | LCB | 08/11/06 |
| Count Room | GELI | KPW | 08/10/06 |
| Count Room | H-3 (DIST) | KOJ | 08/11/06 |
| Count Room | SR-90 (FAST) | KOJ | 08/15/06 |

L29543-2 WG WG-DN-MW-DN-113I-080906-GL-009

| <u>Process step</u> | <u>Prod</u> | <u>Analyst</u> | <u>Date</u> |
|---------------------|--------------|----------------|-------------|
| Login | | RCHARLES | 08/10/06 |
| Aliquot | GELI | DW | 08/10/06 |
| Aliquot | H-3 (DIST) | DW | 08/11/06 |
| Aliquot | SR-90 (FAST) | LCB | 08/11/06 |
| Count Room | GELI | KPW | 08/10/06 |
| Count Room | H-3 (DIST) | KOJ | 08/11/06 |
| Count Room | SR-90 (FAST) | KOJ | 08/15/06 |

L29543-3 WG WG-DN-MW-DN-113I-080906-GL-010

| <u>Process step</u> | <u>Prod</u> | <u>Analyst</u> | <u>Date</u> |
|---------------------|--------------|----------------|-------------|
| Login | | RCHARLES | 08/10/06 |
| Aliquot | GELI | DW | 08/10/06 |
| Aliquot | H-3 (DIST) | DW | 08/11/06 |
| Aliquot | SR-90 (FAST) | LCB | 08/11/06 |
| Count Room | GELI | KPW | 08/10/06 |
| Count Room | H-3 (DIST) | KOJ | 08/11/06 |
| Count Room | SR-90 (FAST) | KOJ | 08/15/06 |

L29543-4 WG WG-DN-MW-DN-116I-080906-GL-011

| <u>Process step</u> | <u>Prod</u> | <u>Analyst</u> | <u>Date</u> |
|---------------------|--------------|----------------|-------------|
| Login | | RCHARLES | 08/10/06 |
| Aliquot | GELI | DW | 08/10/06 |
| Aliquot | H-3 (DIST) | DW | 08/11/06 |
| Aliquot | SR-90 (FAST) | LCB | 08/11/06 |
| Count Room | GELI | ILL | 08/11/06 |
| Count Room | H-3 (DIST) | KOJ | 08/11/06 |

L29543-5 WG WG-DN-MW-DN-116S-080906-GL-012

| <u>Process step</u> | <u>Prod</u> | <u>Analyst</u> | <u>Date</u> |
|---------------------|--------------|----------------|-------------|
| Login | | RCHARLES | 08/10/06 |
| Aliquot | GELI | DW | 08/10/06 |
| Aliquot | H-3 (DIST) | DW | 08/11/06 |
| Aliquot | SR-90 (FAST) | LCB | 08/11/06 |
| Count Room | GELI | ILL | 08/11/06 |
| Count Room | H-3 (DIST) | KOJ | 08/11/06 |

08/16/06

Teledyne Brown Engineering
Internal Chain of Custody
Supplemental Sheet

Page 2 of 2

L29543

L29543-5

WG

WG-DN-MW-DN-116S-080906-GL-012

Count Room

SR-90 (FAST)

KOJ

08/15/06

Analytical Results Summary

Report of Analysis

08/16/06 09:59

L29543

Conestoga-Rovers & Associates

EX001-3ESPDRES-06

Kathy Shaw

| | | | |
|--|---------------------------------|----------------------|------|
| Sample ID: WG-DN-MW-DN-113S-080906-GL-008 | Collect Start: 08/09/2006 10:00 | Matrix: Ground Water | (WG) |
| Station: | Collect Stop: | Volume: | |
| Description: | Receive Date: 08/10/2006 | % Moisture: | |
| LIMS Number: L29543-1 | | | |

| Radionuclide | SOP# | Activity Conc | Uncertainty 2 Sigma | MDC | Units | Run # | Aliquot Volume | Aliquot Units | Reference Date | Count Date | Count Time | Count Units | Flag Values |
|--------------|------|-----------------|---------------------|-----------------|-------|-------|----------------|---------------|----------------|------------|------------|-------------|-------------|
| H-3 (DIST) | 2010 | 4.51E+02 | 1.36E+02 | 1.79E+02 | pCi/L | | 10 | ml | | 08/11/06 | 60 | M | + |
| TOTAL SR | 2018 | 1.23E+00 | 7.87E-01 | 1.39E+00 | pCi/L | | 450 | ml | 08/09/06 10:00 | 08/15/06 | 120 | M | U |
| MN-54 | 2007 | -1.32E+00 | 3.42E+00 | 5.52E+00 | pCi/L | | 1008.87 | ml | 08/09/06 10:00 | 08/10/06 | 53641 | Sec | U |
| CO-58 | 2007 | -3.30E+00 | 3.17E+00 | 4.98E+00 | pCi/L | | 1008.87 | ml | 08/09/06 10:00 | 08/10/06 | 53641 | Sec | U |
| FE-59 | 2007 | 5.60E+00 | 6.06E+00 | 1.04E+01 | pCi/L | | 1008.87 | ml | 08/09/06 10:00 | 08/10/06 | 53641 | Sec | U |
| CO-60 | 2007 | 2.31E+00 | 3.15E+00 | 5.36E+00 | pCi/L | | 1008.87 | ml | 08/09/06 10:00 | 08/10/06 | 53641 | Sec | U |
| ZN-65 | 2007 | 2.70E+01 | 8.23E+00 | 1.36E+01 | pCi/L | | 1008.87 | ml | 08/09/06 10:00 | 08/10/06 | 53641 | Sec | U* |
| NB-95 | 2007 | 6.89E+00 | 3.26E+00 | 5.73E+00 | pCi/L | | 1008.87 | ml | 08/09/06 10:00 | 08/10/06 | 53641 | Sec | U* |
| ZR-95 | 2007 | -4.21E+00 | 5.73E+00 | 9.17E+00 | pCi/L | | 1008.87 | ml | 08/09/06 10:00 | 08/10/06 | 53641 | Sec | U |
| CS-134 | 2007 | 1.81E+01 | 6.90E+00 | 7.08E+00 | pCi/L | | 1008.87 | ml | 08/09/06 10:00 | 08/10/06 | 53641 | Sec | U* |
| CS-137 | 2007 | 1.02E+00 | 3.58E+00 | 5.96E+00 | pCi/L | | 1008.87 | ml | 08/09/06 10:00 | 08/10/06 | 53641 | Sec | U |
| BA-140 | 2007 | 5.20E+00 | 1.27E+01 | 2.08E+01 | pCi/L | | 1008.87 | ml | 08/09/06 10:00 | 08/10/06 | 53641 | Sec | U |
| LA-140 | 2007 | 1.60E+00 | 3.97E+00 | 6.71E+00 | pCi/L | | 1008.87 | ml | 08/09/06 10:00 | 08/10/06 | 53641 | Sec | U |

Flag Values

U = Compound/Analyte not detected or less than 3 sigma
 + = Activity concentration exceeds MDC and 3 sigma; peak identified (gamma only)
 U* = Compound/Analyte not detected. Peak not identified, but forced activity concentration exceeds MDC and 3 sigma
 High = Activity concentration exceeds customer reporting value
 Spec = MDC exceeds customer technical specification
 L = Low recovery
 H = High recovery

Bolded text indicates reportable value.

No = Peak not identified in gamma spectrum
 Yes = Peak identified in gamma spectrum
 **** Results are reported on an as received basis unless otherwise noted

MDC - Minimum Detectable Concentration

Report of Analysis

08/16/06 09:59

L29543

Conestoga-Rovers & Associates

EX001-3ESPDRES-06

Kathy Shaw

| | | | |
|--|---------------------------------|----------------------|------|
| Sample ID: WG-DN-MW-DN-113L-080906-GL-009 | Collect Start: 08/09/2006 11:25 | Matrix: Ground Water | (WG) |
| Station: | Collect Stop: | Volume: | |
| Description: | Receive Date: 08/10/2006 | % Moisture: | |
| LIMS Number: L29543-2 | | | |

| Radionuclide | SOP# | Activity Conc | Uncertainty 2 Sigma | MDC | Units | Run # | Aliquot Volume | Aliquot Units | Reference Date | Count Date | Count Time | Count Units | Flag Values |
|--------------|------|-----------------|---------------------|-----------------|-------|-------|----------------|---------------|----------------|------------|------------|-------------|-------------|
| H-3 (DIST) | 2010 | -4.05E+01 | 1.08E+02 | 1.82E+02 | pCi/L | | 10 | ml | | 08/11/06 | 60 | M | U |
| TOTAL SR | 2018 | 3.81E-01 | 8.03E-01 | 1.58E+00 | pCi/L | | 450 | ml | 08/09/06 11:25 | 08/15/06 | 120 | M | U |
| K-40 | 2007 | 5.99E+01 | 3.55E+01 | 3.06E+01 | pCi/L | | 3169.14 | ml | 08/09/06 11:25 | 08/10/06 | 28800 | Sec | + |
| MN-54 | 2007 | 1.21E+00 | 1.84E+00 | 3.11E+00 | pCi/L | | 3169.14 | ml | 08/09/06 11:25 | 08/10/06 | 28800 | Sec | U |
| CO-58 | 2007 | 2.76E-01 | 1.80E+00 | 2.97E+00 | pCi/L | | 3169.14 | ml | 08/09/06 11:25 | 08/10/06 | 28800 | Sec | U |
| FE-59 | 2007 | -5.50E-01 | 3.51E+00 | 5.73E+00 | pCi/L | | 3169.14 | ml | 08/09/06 11:25 | 08/10/06 | 28800 | Sec | U |
| CO-60 | 2007 | -9.82E-03 | 2.04E+00 | 3.31E+00 | pCi/L | | 3169.14 | ml | 08/09/06 11:25 | 08/10/06 | 28800 | Sec | U |
| ZN-65 | 2007 | -1.04E+00 | 4.74E+00 | 6.50E+00 | pCi/L | | 3169.14 | ml | 08/09/06 11:25 | 08/10/06 | 28800 | Sec | U |
| NB-95 | 2007 | 1.57E+00 | 1.83E+00 | 3.12E+00 | pCi/L | | 3169.14 | ml | 08/09/06 11:25 | 08/10/06 | 28800 | Sec | U |
| ZR-95 | 2007 | -4.11E-01 | 3.09E+00 | 5.03E+00 | pCi/L | | 3169.14 | ml | 08/09/06 11:25 | 08/10/06 | 28800 | Sec | U |
| CS-134 | 2007 | 1.06E+00 | 2.30E+00 | 2.90E+00 | pCi/L | | 3169.14 | ml | 08/09/06 11:25 | 08/10/06 | 28800 | Sec | U |
| CS-137 | 2007 | 2.67E-01 | 1.93E+00 | 3.21E+00 | pCi/L | | 3169.14 | ml | 08/09/06 11:25 | 08/10/06 | 28800 | Sec | U |
| BA-140 | 2007 | 1.79E-01 | 6.70E+00 | 1.12E+01 | pCi/L | | 3169.14 | ml | 08/09/06 11:25 | 08/10/06 | 28800 | Sec | U |
| LA-140 | 2007 | 1.85E+00 | 2.27E+00 | 3.99E+00 | pCi/L | | 3169.14 | ml | 08/09/06 11:25 | 08/10/06 | 28800 | Sec | U |

Flag Values

U = Compound/Analyte not detected or less than 3 sigma
+ = Activity concentration exceeds MDC and 3 sigma; peak identified (gamma only)
U* = Compound/Analyte not detected. Peak not identified, but forced activity concentration exceeds MDC and 3 sigma
High = Activity concentration exceeds customer reporting value
Spec = MDC exceeds customer technical specification
L = Low recovery
H = High recovery

Bolded text indicates reportable value.

No = Peak not identified in gamma spectrum
Yes = Peak identified in gamma spectrum
**** Results are reported on an as received basis unless otherwise noted

MDC - Minimum Detectable Concentration

Report of Analysis

08/16/06 09:59

L29543

Conestoga-Rovers & Associates

EX001-3ESPDRES-06

Kathy Shaw

| | | | |
|--|---------------------------------|----------------------|------|
| Sample ID: WG-DN-MW-DN-1131-080906-GL-010 | Collect Start: 08/09/2006 11:45 | Matrix: Ground Water | (WG) |
| Station: | Collect Stop: | Volume: | |
| Description: | Receive Date: 08/10/2006 | % Moisture: | |
| LIMS Number: L29543-3 | | | |

| Radionuclide | SOP# | Activity Conc | Uncertainty 2 Sigma | MDC | Units | Run # | Aliquot Volume | Aliquot Units | Reference Date | Count Date | Count Time | Count Units | Flag Values |
|--------------|------|---------------|---------------------|----------|-------|-------|----------------|---------------|----------------|------------|------------|-------------|-------------|
| H-3 (DIST) | 2010 | -2.38E+01 | 1.05E+02 | 1.76E+02 | pCi/L | | 10 | ml | | 08/11/06 | 60 | M | U |
| TOTAL SR | 2018 | 1.07E+00 | 7.01E-01 | 1.24E+00 | pCi/L | | 450 | ml | 08/09/06 11:45 | 08/15/06 | 120 | M | U |
| MN-54 | 2007 | 9.82E-01 | 1.64E+00 | 2.83E+00 | pCi/L | | 3201.3 | ml | 08/09/06 11:45 | 08/10/06 | 28800 | Sec | U |
| CO-58 | 2007 | -1.45E-01 | 1.72E+00 | 2.87E+00 | pCi/L | | 3201.3 | ml | 08/09/06 11:45 | 08/10/06 | 28800 | Sec | U |
| FE-59 | 2007 | 3.01E+00 | 3.16E+00 | 5.49E+00 | pCi/L | | 3201.3 | ml | 08/09/06 11:45 | 08/10/06 | 28800 | Sec | U |
| CO-60 | 2007 | -1.85E-02 | 1.65E+00 | 2.66E+00 | pCi/L | | 3201.3 | ml | 08/09/06 11:45 | 08/10/06 | 28800 | Sec | U |
| ZN-65 | 2007 | -8.69E-01 | 3.98E+00 | 5.45E+00 | pCi/L | | 3201.3 | ml | 08/09/06 11:45 | 08/10/06 | 28800 | Sec | U |
| NB-95 | 2007 | 9.33E-01 | 1.74E+00 | 2.88E+00 | pCi/L | | 3201.3 | ml | 08/09/06 11:45 | 08/10/06 | 28800 | Sec | U |
| ZR-95 | 2007 | 2.26E+00 | 2.99E+00 | 5.04E+00 | pCi/L | | 3201.3 | ml | 08/09/06 11:45 | 08/10/06 | 28800 | Sec | U |
| CS-134 | 2007 | 8.27E-01 | 2.20E+00 | 2.64E+00 | pCi/L | | 3201.3 | ml | 08/09/06 11:45 | 08/10/06 | 28800 | Sec | U |
| CS-137 | 2007 | -1.10E-01 | 1.89E+00 | 3.07E+00 | pCi/L | | 3201.3 | ml | 08/09/06 11:45 | 08/10/06 | 28800 | Sec | U |
| BA-140 | 2007 | -3.57E+00 | 6.45E+00 | 1.04E+01 | pCi/L | | 3201.3 | ml | 08/09/06 11:45 | 08/10/06 | 28800 | Sec | U |
| LA-140 | 2007 | 1.42E+00 | 2.01E+00 | 3.51E+00 | pCi/L | | 3201.3 | ml | 08/09/06 11:45 | 08/10/06 | 28800 | Sec | U |

Flag Values

U = Compound/Analyte not detected or less than 3 sigma
 + = Activity concentration exceeds MDC and 3 sigma; peak identified (gamma only)
 U* = Compound/Analyte not detected. Peak not identified, but forced activity concentration exceeds MDC and 3 sigma
 High = Activity concentration exceeds customer reporting value
 Spec = MDC exceeds customer technical specification
 L = Low recovery
 H = High recovery

Bolded text indicates reportable value.

No = Peak not identified in gamma spectrum
 Yes = Peak identified in gamma spectrum
 **** Results are reported on an as received basis unless otherwise noted

MDC - Minimum Detectable Concentration

Report of Analysis

08/16/06 09:59

L29543

Conestoga-Rovers & Associates

EX001-3ESPDRES-06

Kathy Shaw

| Sample ID: WG-DN-MW-DN-1161-080906-GL-011 | | | | | | | | | | Matrix: Ground Water | | | (WG) |
|--|------|---------------|---------------------|----------|-------|-------|----------------|---------------|----------------|---------------------------------|------------|-------------|-------------|
| Station: | | | | | | | | | | Volume: | | | |
| Description: | | | | | | | | | | % Moisture: | | | |
| LIMS Number: L29543-4 | | | | | | | | | | Collect Start: 08/09/2006 13:35 | | | |
| | | | | | | | | | | Collect Stop: | | | |
| | | | | | | | | | | Receive Date: 08/10/2006 | | | |
| Radionuclide | SOP# | Activity Conc | Uncertainty 2 Sigma | MDC | Units | Run # | Aliquot Volume | Aliquot Units | Reference Date | Count Date | Count Time | Count Units | Flag Values |
| H-3 (DIST) | 2010 | 4.15E+03 | 4.68E+02 | 3.17E+02 | pCi/L | | 10 | ml | 08/09/06 13:35 | 08/11/06 | 18.37 | M | + High |
| TOTAL SR | 2018 | 8.99E-01 | 9.91E-01 | 1.86E+00 | pCi/L | | 450 | ml | 08/09/06 13:35 | 08/15/06 | 120 | M | U |
| MN-54 | 2007 | 4.10E-01 | 3.16E+00 | 5.29E+00 | pCi/L | | 3118.24 | ml | 08/09/06 13:35 | 08/11/06 | 6602 | Sec | U |
| CO-58 | 2007 | -9.94E-01 | 2.79E+00 | 4.37E+00 | pCi/L | | 3118.24 | ml | 08/09/06 13:35 | 08/11/06 | 6602 | Sec | U |
| FE-59 | 2007 | 2.32E+00 | 5.08E+00 | 8.86E+00 | pCi/L | | 3118.24 | ml | 08/09/06 13:35 | 08/11/06 | 6602 | Sec | U |
| CO-60 | 2007 | -8.98E-01 | 3.52E+00 | 6.23E+00 | pCi/L | | 3118.24 | ml | 08/09/06 13:35 | 08/11/06 | 6602 | Sec | U |
| ZN-65 | 2007 | 6.88E+00 | 6.56E+00 | 1.14E+01 | pCi/L | | 3118.24 | ml | 08/09/06 13:35 | 08/11/06 | 6602 | Sec | U |
| NB-95 | 2007 | 2.20E+00 | 3.22E+00 | 5.73E+00 | pCi/L | | 3118.24 | ml | 08/09/06 13:35 | 08/11/06 | 6602 | Sec | U |
| ZR-95 | 2007 | 1.59E+00 | 4.87E+00 | 8.43E+00 | pCi/L | | 3118.24 | ml | 08/09/06 13:35 | 08/11/06 | 6602 | Sec | U |
| CS-134 | 2007 | -2.11E+00 | 3.10E+00 | 4.05E+00 | pCi/L | | 3118.24 | ml | 08/09/06 13:35 | 08/11/06 | 6602 | Sec | U |
| CS-137 | 2007 | 1.27E+00 | 3.01E+00 | 5.28E+00 | pCi/L | | 3118.24 | ml | 08/09/06 13:35 | 08/11/06 | 6602 | Sec | U |
| BA-140 | 2007 | -3.71E-01 | 9.39E+00 | 1.50E+01 | pCi/L | | 3118.24 | ml | 08/09/06 13:35 | 08/11/06 | 6602 | Sec | U |
| LA-140 | 2007 | 5.69E-01 | 3.87E+00 | 6.52E+00 | pCi/L | | 3118.24 | ml | 08/09/06 13:35 | 08/11/06 | 6602 | Sec | U |

Flag Values

U = Compound/Analyte not detected or less than 3 sigma
 + = Activity concentration exceeds MDC and 3 sigma; peak identified(gamma only)
 U* = Compound/Analyte not detected. Peak not identified, but forced activity concentration exceeds MDC and 3 sigma
 High = Activity concentration exceeds customer reporting value
 Spec = MDC exceeds customer technical specification
 L = Low recovery
 H = High recovery

Bolded text indicates reportable value.

No = Peak not identified in gamma spectrum
 Yes = Peak identified in gamma spectrum
 **** Results are reported on an as received basis unless otherwise noted

MDC - Minimum Detectable Concentration

Report of Analysis

08/16/06 09:59
L29543

Conestoga-Rovers & Associates

EX001-3ESPDRES-06

Kathy Shaw

| Sample ID: WG-DN-MW-DN-116S-080906-GL-012 | | | | Collect Start: 08/09/2006 13:50 | | | | Matrix: Ground Water | | | | (WG) | |
|---|------|---------------|---------------------|---------------------------------|-------|-------|----------------|----------------------|----------------|------------|------------|-------------|-------------|
| Station: | | | | Collect Stop: | | | | Volume: | | | | | |
| Description: | | | | Receive Date: 08/10/2006 | | | | % Moisture: | | | | | |
| LIMS Number: L29543-5 | | | | | | | | | | | | | |
| Radionuclide | SOP# | Activity Conc | Uncertainty 2 Sigma | MDC | Units | Run # | Aliquot Volume | Aliquot Units | Reference Date | Count Date | Count Time | Count Units | Flag Values |
| H-3 (DIST) | 2010 | 4.31E+02 | 1.35E+02 | 1.80E+02 | pCi/L | | 10 | ml | | 08/11/06 | 60 | M | + |
| TOTAL SR | 2018 | 5.34E-01 | 5.56E-01 | 1.04E+00 | pCi/L | | 450 | ml | 08/09/06 13:50 | 08/15/06 | 120 | M | U |
| MN-54 | 2007 | -1.88E+00 | 2.51E+00 | 3.64E+00 | pCi/L | | 3146.28 | ml | 08/09/06 13:50 | 08/11/06 | 5061 | Sec | U |
| CO-58 | 2007 | 2.22E+00 | 2.87E+00 | 5.22E+00 | pCi/L | | 3146.28 | ml | 08/09/06 13:50 | 08/11/06 | 5061 | Sec | U |
| FE-59 | 2007 | 3.23E-01 | 5.17E+00 | 8.47E+00 | pCi/L | | 3146.28 | ml | 08/09/06 13:50 | 08/11/06 | 5061 | Sec | U |
| CO-60 | 2007 | -2.23E-01 | 2.98E+00 | 4.92E+00 | pCi/L | | 3146.28 | ml | 08/09/06 13:50 | 08/11/06 | 5061 | Sec | U |
| ZN-65 | 2007 | -9.06E+00 | 6.94E+00 | 8.86E+00 | pCi/L | | 3146.28 | ml | 08/09/06 13:50 | 08/11/06 | 5061 | Sec | U |
| NB-95 | 2007 | 2.57E+00 | 3.06E+00 | 5.56E+00 | pCi/L | | 3146.28 | ml | 08/09/06 13:50 | 08/11/06 | 5061 | Sec | U |
| ZR-95 | 2007 | -1.63E+00 | 4.44E+00 | 6.99E+00 | pCi/L | | 3146.28 | ml | 08/09/06 13:50 | 08/11/06 | 5061 | Sec | U |
| CS-134 | 2007 | -9.68E-01 | 3.34E+00 | 4.40E+00 | pCi/L | | 3146.28 | ml | 08/09/06 13:50 | 08/11/06 | 5061 | Sec | U |
| CS-137 | 2007 | 1.34E+00 | 2.83E+00 | 5.02E+00 | pCi/L | | 3146.28 | ml | 08/09/06 13:50 | 08/11/06 | 5061 | Sec | U |
| BA-140 | 2007 | 6.15E-01 | 1.10E+01 | 1.79E+01 | pCi/L | | 3146.28 | ml | 08/09/06 13:50 | 08/11/06 | 5061 | Sec | U |
| LA-140 | 2007 | -1.08E+00 | 3.25E+00 | 4.96E+00 | pCi/L | | 3146.28 | ml | 08/09/06 13:50 | 08/11/06 | 5061 | Sec | U |

Flag Values

U = Compound/Analyte not detected or less than 3 sigma
 + = Activity concentration exceeds MDC and 3 sigma, peak identified(gamma only)
 U* = Compound/Analyte not detected. Peak not identified, but forced activity concentration exceeds MDC and 3 sigma
 High = Activity concentration exceeds customer reporting value
 Spec = MDC exceeds customer technical specification
 L = Low recovery
 H = High recovery

Bolded text indicates reportable value.

No = Peak not identified in gamma spectrum
 Yes = Peak identified in gamma spectrum
 **** Results are reported on an as received basis unless otherwise noted

MDC - Minimum Detectable Concentration

QC Results Summary



H-3 (DIST)

Method Blank Summary

| <u>TBE Sample ID</u> | <u>Radionuclide</u> | <u>Matrix</u> | <u>Count Date/Time</u> | <u>Blank Result</u> | <u>Units</u> | <u>Qualifier</u> |
|----------------------|---------------------|---------------|------------------------|---------------------|--------------|------------------|
| WG4307-1 | H-3 (DIST) | WO | 08/11/2006 15:18 | < 1.780E+00 | pCi/Total | U |

LCS Sample Summary

| <u>TBE Sample ID</u> | <u>Radionuclide</u> | <u>Matrix</u> | <u>Count Date/Time</u> | <u>Spike Value</u> | <u>LCS Result</u> | <u>Units</u> | <u>Spike Recovery</u> | <u>Range</u> | <u>Qualifier</u> |
|----------------------|---------------------|---------------|------------------------|--------------------|-------------------|--------------|-----------------------|--------------|------------------|
| WG4307-2 | H-3 (DIST) | WO | 08/11/2006 16:22 | 5.05E+002 | 4.620E+02 | pCi/Total | 91.5 | 70-130 | + |

Spike ID: 3H-041706-1
Spike conc: 5.05E+002
Spike Vol: 1.00E+000

Duplicate Summary

| <u>TBE Sample ID</u> | <u>Radionuclide</u> | <u>Matrix</u> | <u>Count Date/Time</u> | <u>Original Result</u> | <u>DUP Result</u> | <u>Units</u> | <u>RPD</u> | <u>Range</u> | <u>Qualifier</u> |
|----------------------|---------------------|---------------|------------------------|------------------------|-------------------|--------------|------------|--------------|------------------|
| WG4307-3 L29543-1 | H-3 (DIST) | WG | 08/11/2006 16:42 | 4.510E+02 | 4.960E+02 | pCi/L | | <30 | * |

+ Positive Result
U Compound/analyte was analyzed, peak not identified and/or not detected above MDC
* < 5 times the MDC are not evaluated
** Nuclide not detected
*** Spiking level < 5 times activity
P Pass
F Fail
NE Not evaluated

QC Summary Report for L29543

8/16/2006 10:16:46AM



TOTAL SR

Method Blank Summary

| <u>TBE Sample ID</u> | <u>Radionuclide</u> | <u>Matrix</u> | <u>Count Date/Time</u> | <u>Blank Result</u> | <u>Units</u> | <u>Qualifier</u> |
|----------------------|---------------------|---------------|------------------------|---------------------|--------------|------------------|
| WG4318-1 | TOTAL SR | WO | 08/15/2006 14:02 | < 1.170E+00 | pCi/Total | U I |

LCS Sample Summary

| <u>TBE Sample ID</u> | <u>Radionuclide</u> | <u>Matrix</u> | <u>Count Date/Time</u> | <u>Spike Value</u> | <u>LCS Result</u> | <u>Units</u> | <u>Spike Recovery</u> | <u>Range</u> | <u>Qualifier</u> |
|----------------------|---------------------|---------------|------------------------|--------------------|-------------------|--------------|-----------------------|--------------|------------------|
| WG4318-2 | TOTAL SR | WO | 08/15/2006 14:02 | 5.84E+001 | 6.710E+01 | pCi/Total | 115.0 | 70-130 | + J |

Spike ID: 90SR-011905
Spike conc: 2.34E+002
Spike Vol: 2.50E-001

Duplicate Summary

| <u>TBE Sample ID</u> | <u>Radionuclide</u> | <u>Matrix</u> | <u>Count Date/Time</u> | <u>Original Result</u> | <u>DUP Result</u> | <u>Units</u> | <u>RPD</u> | <u>Range</u> | <u>Qualifier</u> |
|----------------------|---------------------|---------------|------------------------|------------------------|-------------------|--------------|------------|--------------|------------------|
| WG4318-3 | TOTAL SR | WG | 08/15/2006 16:21 | < 1.390E+00 | 1.750E+00 | pCi/L | | <30 | * N |
| L29543-1 | | | | | | | | | |

+ Positive Result
U Compound/analyte was analyzed, peak not identified and/or not detected above MDC
* < 5 times the MDC are not evaluated
** Nuclide not detected
*** Spiking level < 5 times activity
P Pass
F Fail
NE Not evaluated

Raw Data

| Sample ID | Run | Analysis | Reference | Volume/ Aliquot | Scavenge | Milking |
|--------------------------------|-----------|-------------------|-----------|--------------------|-----------|-----------|
| Client ID | # | Date/time | Date/time | Date/time | Date/time | Date/time |
| L29543-1 | | H-3 DIST | | 10 ml | | |
| WG-DN-MW-DN-113S-080906-GL-008 | | | | | | |
| Activity: | 4.51E+02 | * Error: 1.36E+02 | | MDC: 1.79E+02 | | |
| L29543-2 | | H-3 DIST | | 10 ml | | |
| WG-DN-MW-DN-113I-080906-GL-009 | | | | | | |
| Activity: | -4.05E+01 | Error: 1.08E+02 | | MDC: 1.82E+02 | * | |
| L29543-3 | | H-3 DIST | | 10 ml | | |
| WG-DN-MW-DN-113I-080906-GL-010 | | | | | | |
| Activity: | -2.38E+01 | Error: 1.05E+02 | | MDC: 1.76E+02 | * | |
| L29543-4 | | H-3 DIST | | 10 ml | | |
| WG-DN-MW-DN-116I-080906-GL-011 | | | | | | |
| Activity: | 4.15E+03 | * Error: 4.68E+02 | | MDC: 3.17E+02 | | |
| L29543-5 | | H-3 DIST | | 10 ml | | |
| WG-DN-MW-DN-116S-080906-GL-012 | | | | | | |
| Activity: | 4.31E+02 | * Error: 1.35E+02 | | MDC: 1.8E+02 | | |

Page: 2

Customer: Exelon

Work Order: L29543

Project : EX001-3ESPDRES-06

Nuclide: SR-90 (FAST)

| Project : EX001-3ESPDRS-06 | | | | | | | | | | | | | | | |
|--|--------------|---------------------|--------------------|--------------------|-------------------|--------------|----------|-----------------|------------|--------------|----------------|------------|-------------|-------------|------------------------|
| Nuclide: SR-90 (FAST) | | | | | | | | | | | | | | | |
| Sample ID | Run Analysis | Reference Date/time | Volume/ Aliquot | Scavenge Date/time | Milking Date/time | Mount Weight | Recovery | Count | Counter ID | Total counts | Sample dt(min) | Bkg counts | Bkg dt(min) | Eff. Factor | Decay & Ingrowth Anal. |
| L29543-1 | TOTAL SR | 09-aug-06 10:00 | 450 ml | 15-aug-06 08:30 | | 0 | 77.47 | 15-aug-06 16:20 | X1A | 132 | 120 | 308 | 400 | .346 | 1 |
| WG-DN-MW-DN-113S-080906-GL-008 | | | | | | | | | | | | | | | |
| Activity: 1.23E+00 Error: 7.87E-01 MDC: 1.39E+00 * | | | | | | | | | | | | | | | |
| L29543-2 | TOTAL SR | 09-aug-06 11:25 | 450 ml | 15-aug-06 08:30 | | 0 | 72.80 | 15-aug-06 16:20 | X1B | 114 | 120 | 342 | 400 | .343 | 1 |
| WG-DN-MW-DN-113I-080906-GL-009 | | | | | | | | | | | | | | | |
| Activity: 3.81E-01 Error: 8.03E-01 MDC: 1.58E+00 * | | | | | | | | | | | | | | | |
| L29543-3 | TOTAL SR | 09-aug-06 11:45 | 450 ml | 15-aug-06 08:30 | | 0 | 82.42 | 15-aug-06 16:20 | X1C | 124 | 120 | 289 | 400 | .354 | 1 |
| WG-DN-MW-DN-113I-080906-GL-010 | | | | | | | | | | | | | | | |
| Activity: 1.07E+00 Error: 7.01E-01 MDC: 1.24E+00 * | | | | | | | | | | | | | | | |
| L29543-4 | TOTAL SR | 09-aug-06 13:35 | 450 ml | 15-aug-06 08:30 | | 0 | 57.97 | 15-aug-06 19:25 | X1A | 114 | 120 | 308 | 400 | .346 | 1 |
| WG-DN-MW-DN-116I-080906-GL-011 | | | | | | | | | | | | | | | |
| Activity: 8.92E-01 Error: 9.91E-01 MDC: 1.86E+00 * | | | | | | | | | | | | | | | |
| L29543-5 | TOTAL SR | 09-aug-06 13:50 | 450 ml | 15-aug-06 08:30 | | 0 | 101.10 | 15-aug-06 16:20 | X2B | 109 | 120 | 289 | 400 | .345 | 1 |
| WG-DN-MW-DN-116S-080906-GL-012 | | | | | | | | | | | | | | | |
| Activity: 5.34E-01 Error: 5.56E-01 MDC: 1.04E+00 * | | | | | | | | | | | | | | | |

Sec. Review: Analyst: LIMS: ✓

VAX/VMS Teledyne Brown Eng. Laboratory Gamma Report: 11-AUG-2006 11:39:12.20
TBE23 03017322 HpGe ***** Aquisition Date/Time: 11-AUG-2006 10:16:29.74

LIMS No., Customer Name, Client ID: WG4304-1 WG EX/DRES

Sample ID : 23WG4304-1 Smple Date: 9-AUG-2006 11:25:00.0
Sample Type : WG Geometry : 233L082404
Quantity : 3.16910E+00 L BKGFILE : 23BG072806MT
Start Channel : 50 Energy Tol : 1.00000 Real Time : 0 01:22:34.69
End Channel : 4090 Pk Srch Sens: 5.00000 Live time : 0 01:22:31.36
MDA Constant : 0.00 Library Used: LIBD

| Pk | It | Energy | Area | Bkgnd | FWHM | Channel | %Eff | Cts/Sec | %Err | Fit |
|----|----|----------|------|-------|------|---------|----------|----------|-------|----------|
| 1 | 9 | 34.70* | 36 | 16 | 2.51 | 69.88 | 9.66E-02 | 7.23E-03 | 44.9 | 2.30E+00 |
| 2 | 9 | 37.77* | 13 | 43 | 1.57 | 76.01 | 1.54E-01 | 2.63E-03 | 126.3 | |
| 3 | 9 | 39.77 | 41 | 63 | 1.53 | 80.00 | 2.00E-01 | 8.37E-03 | 40.1 | |
| 4 | 9 | 42.78* | 43 | 116 | 2.54 | 86.03 | 2.81E-01 | 8.59E-03 | 47.2 | |
| 5 | 0 | 92.36* | 33 | 242 | 1.45 | 185.07 | 1.93E+00 | 6.76E-03 | 95.9 | |
| 6 | 0 | 185.62* | 35 | 109 | 1.27 | 371.39 | 2.17E+00 | 6.97E-03 | 62.2 | |
| 7 | 0 | 351.65* | 61 | 64 | 1.25 | 703.18 | 1.44E+00 | 1.23E-02 | 29.4 | |
| 8 | 0 | 596.55 | 37 | 24 | 1.45 | 1192.78 | 9.55E-01 | 7.47E-03 | 31.2 | |
| 9 | 0 | 609.08* | 55 | 28 | 1.00 | 1217.85 | 9.41E-01 | 1.11E-02 | 23.9 | |
| 10 | 0 | 912.16* | 26 | 7 | 1.55 | 1824.11 | 7.08E-01 | 5.29E-03 | 32.1 | |
| 11 | 0 | 1461.19* | 7 | 14 | 1.75 | 2923.27 | 5.09E-01 | 1.51E-03 | 153.3 | |

Flag: "*" = Peak area was modified by background subtraction

Nuclide Line Activity Report

Nuclide Type: natural

| Nuclide | Energy | Area | %Abn | %Eff | Uncorrected pCi/L | Decay Corr pCi/L | 2-Sigma %Error |
|---------|---------|------|--------|-----------|----------------------|---------------------|-------------------|
| K-40 | 1460.81 | 7 | 10.67* | 5.095E-01 | 2.374E+01 | 2.374E+01 | 306.53 |
| RA-226 | 186.21 | 35 | 3.28* | 2.175E+00 | 8.338E+01 | 8.338E+01 | 124.50 |

Flag: "*" = Keyline

Summary of Nuclide Activity

Page : 2

Sample ID : 23WG4304-1

Acquisition date : 11-AUG-2006 10:16:29

| | | |
|---|----|--------|
| Total number of lines in spectrum | 11 | |
| Number of unidentified lines | 9 | |
| Number of lines tentatively identified by NID | 2 | 18.18% |

Nuclide Type : natural

| Nuclide | Hlife | Decay | Uncorrected pCi/L | Decay Corr pCi/L | Decay Corr 2-Sigma Error | 2-Sigma %Error | Flags |
|------------------|-----------|-------|----------------------|---------------------|-----------------------------|-------------------|-------|
| K-40 | 1.28E+09Y | 1.00 | 2.374E+01 | 2.374E+01 | 7.277E+01 | 306.53 | |
| RA-226 | 1600.00Y | 1.00 | 8.338E+01 | 8.338E+01 | 10.38E+01 | 124.50 | |
| Total Activity : | | | 1.071E+02 | 1.071E+02 | | | |

Grand Total Activity : 1.071E+02 1.071E+02

Flags: "K" = Keyline not found
 "E" = Manually edited

"M" = Manually accepted
 "A" = Nuclide specific abn. limit

Unidentified Energy Lines

Page : 3

Sample ID : 23WG4304-1

Acquisition date : 11-AUG-2006 10:16:29

| It | Energy | Area | Bkgnd | FWHM | Channel | Left | Pw | Cts/Sec | %Err | %Eff | Flags |
|----|--------|------|-------|------|---------|------|----|----------|------|----------|-------|
| 9 | 34.70 | 36 | 16 | 2.51 | 69.88 | 65 | 26 | 7.23E-03 | 89.7 | 9.66E-02 | |
| 9 | 37.77 | 13 | 43 | 1.57 | 76.01 | 65 | 26 | 2.63E-03 | **** | 1.54E-01 | |
| 9 | 39.77 | 41 | 63 | 1.53 | 80.00 | 65 | 26 | 8.37E-03 | 80.2 | 2.00E-01 | |
| 9 | 42.78 | 43 | 116 | 2.54 | 86.03 | 65 | 26 | 8.59E-03 | 94.4 | 2.81E-01 | |
| 0 | 92.36 | 33 | 242 | 1.45 | 185.07 | 179 | 11 | 6.76E-03 | **** | 1.93E+00 | |
| 0 | 351.65 | 61 | 64 | 1.25 | 703.18 | 698 | 11 | 1.23E-02 | 58.8 | 1.44E+00 | |
| 0 | 596.55 | 37 | 24 | 1.45 | 1192.78 | 1188 | 12 | 7.47E-03 | 62.3 | 9.55E-01 | |
| 0 | 609.08 | 55 | 28 | 1.00 | 1217.85 | 1212 | 10 | 1.11E-02 | 47.9 | 9.41E-01 | |
| 0 | 912.16 | 26 | 7 | 1.55 | 1824.11 | 1817 | 15 | 5.29E-03 | 64.3 | 7.08E-01 | |

Flags: "T" = Tentatively associated

Summary of Nuclide Activity

| | | |
|---|----|--------|
| Total number of lines in spectrum | 11 | |
| Number of unidentified lines | 9 | |
| Number of lines tentatively identified by NID | 2 | 18.18% |

Nuclide Type : natural

| Nuclide | Hlife | Decay | Wtd Mean | Wtd Mean | Decay Corr | 2-Sigma | 2-Sigma | Error | %Error | Flags |
|------------------|-----------|-------|-------------|------------|------------|-----------|---------|-------|--------|-------|
| | | | Uncorrected | Decay Corr | | | | | | |
| | | | pCi/L | pCi/L | | | | | | |
| K-40 | 1.28E+09Y | 1.00 | 2.374E+01 | 2.374E+01 | | 7.277E+01 | 306.53 | | | |
| RA-226 | 1600.00Y | 1.00 | 8.338E+01 | 8.338E+01 | | 10.38E+01 | 124.50 | | | |
| Total Activity : | | | 1.071E+02 | 1.071E+02 | | | | | | |

Grand Total Activity : 1.071E+02 1.071E+02

| | |
|--------------------------------|-----------------------------------|
| Flags: "K" = Keyline not found | "M" = Manually accepted |
| "E" = Manually edited | "A" = Nuclide specific abn. limit |

Interference Report

No interference correction performed

Combined Activity-MDA Report

---- Identified Nuclides ----

| Nuclide | Activity (pCi/L) | Act error | MDA (pCi/L) | MDA error | Act/MDA |
|---------|---------------------|-----------|----------------|-----------|---------|
| K-40 | 2.374E+01 | 7.277E+01 | 5.063E+01 | 0.000E+00 | 0.469 |
| RA-226 | 8.338E+01 | 1.038E+02 | 1.325E+02 | 0.000E+00 | 0.629 |

---- Non-Identified Nuclides ----

| Nuclide | Key-Line | K.L. | Act error | MDA (pCi/L) | MDA error | Act/MDA |
|---------|---------------------|------|-----------|----------------|-----------|---------|
| | Activity (pCi/L) | | | | | |
| | | Ided | | | | |

| | | | | | |
|---------|------------|-----------|-----------|-----------|--------|
| BE-7 | -1.074E+00 | 2.246E+01 | 4.043E+01 | 0.000E+00 | -0.027 |
| NA-24 | -4.200E+00 | 2.638E+01 | 4.959E+01 | 0.000E+00 | -0.085 |
| CR-51 | -9.100E-01 | 2.782E+01 | 4.913E+01 | 0.000E+00 | -0.019 |
| MN-54 | 1.067E+00 | 3.248E+00 | 6.313E+00 | 0.000E+00 | 0.169 |
| CO-57 | -1.385E+00 | 3.390E+00 | 5.461E+00 | 0.000E+00 | -0.254 |
| CO-58 | -5.669E-01 | 2.872E+00 | 5.320E+00 | 0.000E+00 | -0.107 |
| FE-59 | 2.073E+00 | 5.563E+00 | 1.118E+01 | 0.000E+00 | 0.185 |
| CO-60 | -1.578E+00 | 2.896E+00 | 5.012E+00 | 0.000E+00 | -0.315 |
| ZN-65 | -7.857E+00 | 6.533E+00 | 9.949E+00 | 0.000E+00 | -0.790 |
| SE-75 | -7.275E-01 | 4.141E+00 | 7.246E+00 | 0.000E+00 | -0.100 |
| SR-85 | -6.741E+00 | 3.911E+00 | 5.746E+00 | 0.000E+00 | -1.173 |
| Y-88 | 1.843E+00 | 3.279E+00 | 7.172E+00 | 0.000E+00 | 0.257 |
| NB-94 | 2.243E+00 | 2.678E+00 | 5.407E+00 | 0.000E+00 | 0.415 |
| NB-95 | 2.461E+00 | 3.311E+00 | 6.443E+00 | 0.000E+00 | 0.382 |
| ZR-95 | -4.123E+00 | 4.950E+00 | 7.702E+00 | 0.000E+00 | -0.535 |
| MO-99 | -9.111E+00 | 3.767E+01 | 6.521E+01 | 0.000E+00 | -0.140 |
| RU-103 | -4.313E-01 | 3.278E+00 | 5.748E+00 | 0.000E+00 | -0.075 |
| RU-106 | 1.293E+01 | 2.488E+01 | 4.858E+01 | 0.000E+00 | 0.266 |
| AG-110m | -2.644E+00 | 3.065E+00 | 4.820E+00 | 0.000E+00 | -0.549 |
| SN-113 | 7.033E-02 | 4.246E+00 | 7.538E+00 | 0.000E+00 | 0.009 |
| SB-124 | 1.140E+00 | 3.901E+00 | 5.491E+00 | 0.000E+00 | 0.208 |
| SB-125 | -2.697E+00 | 8.885E+00 | 1.535E+01 | 0.000E+00 | -0.176 |
| TE-129M | -1.274E+01 | 3.413E+01 | 5.859E+01 | 0.000E+00 | -0.218 |
| I-131 | -1.893E+00 | 3.715E+00 | 6.298E+00 | 0.000E+00 | -0.300 |
| BA-133 | -8.490E-01 | 4.761E+00 | 7.267E+00 | 0.000E+00 | -0.117 |
| CS-134 | 2.334E+00 | 3.299E+00 | 5.760E+00 | 0.000E+00 | 0.405 |
| CS-136 | -3.880E-01 | 3.179E+00 | 5.939E+00 | 0.000E+00 | -0.065 |
| CS-137 | 6.115E-01 | 3.530E+00 | 6.432E+00 | 0.000E+00 | 0.095 |
| CE-139 | 1.679E+00 | 3.239E+00 | 5.870E+00 | 0.000E+00 | 0.286 |
| BA-140 | 7.691E+00 | 1.172E+01 | 2.262E+01 | 0.000E+00 | 0.340 |
| LA-140 | -2.517E-01 | 3.632E+00 | 6.953E+00 | 0.000E+00 | -0.036 |
| CE-141 | -3.306E+00 | 5.764E+00 | 9.904E+00 | 0.000E+00 | -0.334 |
| CE-144 | -3.562E+01 | 2.474E+01 | 4.071E+01 | 0.000E+00 | -0.875 |
| EU-152 | 4.482E-01 | 9.447E+00 | 1.686E+01 | 0.000E+00 | 0.027 |
| EU-154 | -6.116E+00 | 7.112E+00 | 1.113E+01 | 0.000E+00 | -0.549 |
| AC-228 | 9.189E+00 | 1.099E+01 | 2.403E+01 | 0.000E+00 | 0.382 |
| TH-228 | -2.070E+00 | 6.119E+00 | 1.083E+01 | 0.000E+00 | -0.191 |
| TH-232 | 9.183E+00 | 1.098E+01 | 2.401E+01 | 0.000E+00 | 0.382 |
| U-235 | -2.099E+01 | 2.660E+01 | 4.527E+01 | 0.000E+00 | -0.464 |
| U-238 | -3.362E+02 | 3.876E+02 | 6.659E+02 | 0.000E+00 | -0.505 |
| AM-241 | -3.016E-01 | 1.950E+01 | 3.271E+01 | 0.000E+00 | -0.009 |

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A,23WG4304-1      ,08/11/2006 11:39,08/09/2006 11:25,    3.169E+00,WG4304-1 WG EX
B,23WG4304-1      ,LIBD      ,08/11/2006 09:57,233L082404
C,K-40      ,YES,    2.374E+01,    7.277E+01,    5.063E+01,,    0.469
C,RA-226    ,YES,    8.338E+01,    1.038E+02,    1.325E+02,,    0.629
C,BE-7      ,NO ,    -1.074E+00,    2.246E+01,    4.043E+01,,    -0.027
C,NA-24     ,NO ,    -4.200E+00,    2.638E+01,    4.959E+01,,    -0.085
C,CR-51     ,NO ,    -9.100E-01,    2.782E+01,    4.913E+01,,    -0.019
C,MN-54     ,NO ,    1.067E+00,    3.248E+00,    6.313E+00,,    0.169
C,CO-57     ,NO ,    -1.385E+00,    3.390E+00,    5.461E+00,,    -0.254
C,CO-58     ,NO ,    -5.669E-01,    2.872E+00,    5.320E+00,,    -0.107
C,FE-59     ,NO ,    2.073E+00,    5.563E+00,    1.118E+01,,    0.185
C,CO-60     ,NO ,    -1.578E+00,    2.896E+00,    5.012E+00,,    -0.315
C,ZN-65     ,NO ,    -7.857E+00,    6.533E+00,    9.949E+00,,    -0.790
C,SE-75     ,NO ,    -7.275E-01,    4.141E+00,    7.246E+00,,    -0.100
C,SR-85     ,NO ,    -6.741E+00,    3.911E+00,    5.746E+00,,    -1.173
C,Y-88      ,NO ,    1.843E+00,    3.279E+00,    7.172E+00,,    0.257
C,NB-94     ,NO ,    2.243E+00,    2.678E+00,    5.407E+00,,    0.415
C,NB-95     ,NO ,    2.461E+00,    3.311E+00,    6.443E+00,,    0.382
C,ZR-95     ,NO ,    -4.123E+00,    4.950E+00,    7.702E+00,,    -0.535
C,MO-99     ,NO ,    -9.111E+00,    3.767E+01,    6.521E+01,,    -0.140
C,RU-103    ,NO ,    -4.313E-01,    3.278E+00,    5.748E+00,,    -0.075
C,RU-106    ,NO ,    1.293E+01,    2.488E+01,    4.858E+01,,    0.266
C,AG-110m   ,NO ,    -2.644E+00,    3.065E+00,    4.820E+00,,    -0.549
C,SN-113    ,NO ,    7.033E-02,    4.246E+00,    7.538E+00,,    0.009
C,SB-124    ,NO ,    1.140E+00,    3.901E+00,    5.491E+00,,    0.208
C,SB-125    ,NO ,    -2.697E+00,    8.885E+00,    1.535E+01,,    -0.176
C,TE-129M   ,NO ,    -1.274E+01,    3.413E+01,    5.859E+01,,    -0.218
C,I-131     ,NO ,    -1.893E+00,    3.715E+00,    6.298E+00,,    -0.300
C,BA-133    ,NO ,    -8.490E-01,    4.761E+00,    7.267E+00,,    -0.117
C,CS-134    ,NO ,    2.334E+00,    3.299E+00,    5.760E+00,,    0.405
C,CS-136    ,NO ,    -3.880E-01,    3.179E+00,    5.939E+00,,    -0.065
C,CS-137    ,NO ,    6.115E-01,    3.530E+00,    6.432E+00,,    0.095
C,CE-139    ,NO ,    1.679E+00,    3.239E+00,    5.870E+00,,    0.286
C,BA-140    ,NO ,    7.691E+00,    1.172E+01,    2.262E+01,,    0.340
C,LA-140    ,NO ,    -2.517E-01,    3.632E+00,    6.953E+00,,    -0.036
C,CE-141    ,NO ,    -3.306E+00,    5.764E+00,    9.904E+00,,    -0.334
C,CE-144    ,NO ,    -3.562E+01,    2.474E+01,    4.071E+01,,    -0.875
C,EU-152    ,NO ,    4.482E-01,    9.447E+00,    1.686E+01,,    0.027
C,EU-154    ,NO ,    -6.116E+00,    7.112E+00,    1.113E+01,,    -0.549
C,AC-228    ,NO ,    9.189E+00,    1.099E+01,    2.403E+01,,    0.382
C,TH-228    ,NO ,    -2.070E+00,    6.119E+00,    1.083E+01,,    -0.191
C,TH-232    ,NO ,    9.183E+00,    1.098E+01,    2.401E+01,,    0.382
C,U-235     ,NO ,    -2.099E+01,    2.660E+01,    4.527E+01,,    -0.464
C,U-238     ,NO ,    -3.362E+02,    3.876E+02,    6.659E+02,,    -0.505
C,AM-241    ,NO ,    -3.016E-01,    1.950E+01,    3.271E+01,,    -0.009

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Sec. Review: Analyst: LIMS: [✓]

 =====
 VAX/VMS Teledyne Brown Eng. Laboratory Gamma Report: 11-AUG-2006 09:04:09.33
 TBE10 12892256 HpGe ***** Aquisition Date/Time: 10-AUG-2006 18:09:33.15

LIMS No., Customer Name, Client ID: L29543-1 WG EX/DRES

| | | | |
|---------------|-----------------|---------------|-----------------------|
| Sample ID | : 10L29543-1 | Smple Date: | 9-AUG-2006 10:00:00.0 |
| Sample Type | : WG | Geometry | : 101L082304 |
| Quantity | : 1.00890E+00 L | BKGFILE | : 10BG072806MT |
| Start Channel | : 80 | Energy Tol | : 1.00000 |
| End Channel | : 4090 | Real Time | : 0 14:54:09.82 |
| MDA Constant | : 0.00 | Live time | : 0 14:54:01.35 |
| | | Library Used: | LIBD |

| Pk | It | Energy | Area | Bkgnd | FWHM | Channel | %Eff | Cts/Sec | %Err | Fit |
|----|----|----------|------|-------|------|---------|----------|----------|-------|----------|
| 1 | 4 | 63.35* | 102 | 1275 | 1.25 | 125.88 | 9.84E-01 | 1.89E-03 | 67.9 | 1.13E+00 |
| 2 | 4 | 66.34 | 256 | 1656 | 1.58 | 131.88 | 1.14E+00 | 4.77E-03 | 30.2 | |
| 3 | 3 | 73.10* | 6 | 1187 | 1.21 | 145.40 | 1.49E+00 | 1.13E-04 | ***** | 1.82E+00 |
| 4 | 3 | 77.16 | 322 | 1230 | 1.31 | 153.55 | 1.68E+00 | 6.00E-03 | 20.6 | |
| 5 | 1 | 87.33* | 77 | 905 | 1.31 | 173.90 | 2.11E+00 | 1.43E-03 | 73.6 | 1.08E+00 |
| 6 | 1 | 92.75* | 61 | 1377 | 1.14 | 184.74 | 2.29E+00 | 1.13E-03 | 130.2 | 7.68E-01 |
| 7 | 1 | 139.71 | 215 | 1388 | 1.69 | 278.76 | 2.89E+00 | 4.01E-03 | 31.9 | 3.24E-01 |
| 8 | 1 | 185.83* | 8 | 1193 | 1.11 | 371.09 | 2.69E+00 | 1.45E-04 | 937.9 | 6.18E-01 |
| 9 | 1 | 198.37* | 29 | 1138 | 1.50 | 396.18 | 2.61E+00 | 5.42E-04 | 249.2 | 1.78E+00 |
| 10 | 1 | 238.54* | 65 | 1399 | 0.99 | 476.62 | 2.33E+00 | 1.21E-03 | 125.4 | 1.08E+00 |
| 11 | 1 | 242.26 | 171 | 746 | 1.30 | 484.05 | 2.31E+00 | 3.18E-03 | 27.7 | 1.00E+00 |
| 12 | 1 | 295.27* | 329 | 854 | 1.21 | 590.19 | 1.99E+00 | 6.13E-03 | 18.9 | 8.58E-01 |
| 13 | 1 | 352.01* | 537 | 591 | 1.10 | 703.80 | 1.73E+00 | 1.00E-02 | 10.7 | 8.68E-01 |
| 14 | 1 | 583.04* | 53 | 257 | 1.69 | 1166.37 | 1.15E+00 | 9.81E-04 | 69.8 | 9.07E-01 |
| 15 | 1 | 596.10 | 122 | 295 | 2.33 | 1192.52 | 1.13E+00 | 2.28E-03 | 27.8 | 2.41E+00 |
| 16 | 1 | 609.27* | 569 | 373 | 1.57 | 1218.89 | 1.11E+00 | 1.06E-02 | 9.5 | 1.31E+00 |
| 17 | 1 | 910.80* | 34 | 125 | 2.11 | 1822.71 | 8.00E-01 | 6.32E-04 | 80.4 | 1.24E+00 |
| 18 | 1 | 1120.12* | 103 | 157 | 1.89 | 2241.94 | 6.78E-01 | 1.93E-03 | 30.4 | 1.08E+00 |
| 19 | 1 | 1238.15* | 64 | 85 | 1.75 | 2478.35 | 6.26E-01 | 1.19E-03 | 36.1 | 1.16E+00 |
| 20 | 1 | 1460.75* | 38 | 85 | 2.23 | 2924.23 | 5.49E-01 | 7.10E-04 | 89.7 | 1.76E+00 |
| 21 | 1 | 1764.38* | 72 | 68 | 2.21 | 3532.53 | 4.74E-01 | 1.33E-03 | 34.1 | 5.62E-01 |

Flag: "*" = Peak area was modified by background subtraction

Nuclide Line Activity Report

Nuclide Type: natural

| Nuclide | Energy | Area | %Abn | %Eff | Uncorrected pCi/L | Decay Corr pCi/L | 2-Sigma %Error |
|---------|---------|-------|--------|-----------|----------------------|---------------------|-------------------|
| K-40 | 1460.81 | 38 | 10.67* | 5.491E-01 | 3.244E+01 | 3.244E+01 | 179.47 |
| RA-226 | 186.21 | 8 | 3.28* | 2.693E+00 | 4.402E+00 | 4.402E+00 | 1875.72 |
| AC-228 | 835.50 | ----- | 1.75 | 8.569E-01 | ----- | Line Not Found | ----- |
| | 911.07 | 34 | 27.70* | 7.997E-01 | 7.638E+00 | 7.642E+00 | 160.79 |
| TH-228 | 238.63 | 65 | 44.60* | 2.331E+00 | 3.109E+00 | 3.114E+00 | 250.79 |
| | 240.98 | ----- | 3.95 | 2.315E+00 | ----- | Line Not Found | ----- |
| TH-232 | 583.14 | 53 | 30.25 | 1.146E+00 | 7.578E+00 | 7.578E+00 | 139.64 |
| | 911.07 | 34 | 27.70* | 7.997E-01 | 7.638E+00 | 7.638E+00 | 160.79 |
| | 969.11 | ----- | 16.60 | 7.610E-01 | ----- | Line Not Found | ----- |

| | | | | | | | |
|-------|--------|-------|--------|-----------|-----------|----------------|---------|
| U-235 | 143.76 | ----- | 10.50* | 2.888E+00 | ----- | Line Not Found | ----- |
| | 163.35 | ----- | 4.70 | 2.826E+00 | ----- | Line Not Found | ----- |
| | 185.71 | 8 | 54.00 | 2.693E+00 | 2.674E-01 | 2.674E-01 | 1875.72 |
| | 205.31 | ----- | 4.70 | 2.559E+00 | ----- | Line Not Found | ----- |

Flag: "*" = Keyline

Summary of Nuclide Activity

Page : 2

Sample ID : 10L29543-1

Acquisition date : 10-AUG-2006 18:09:33

| | | |
|---|----|--------|
| Total number of lines in spectrum | 21 | |
| Number of unidentified lines | 16 | |
| Number of lines tentatively identified by NID | 5 | 23.81% |

Nuclide Type : natural

| Nuclide | Hlife | Decay | Uncorrected pCi/L | Decay Corr pCi/L | Decay Corr 2-Sigma Error | 2-Sigma %Error | Flags |
|------------------|-----------|-------|----------------------|---------------------|-----------------------------|-------------------|-------|
| K-40 | 1.28E+09Y | 1.00 | 3.244E+01 | 3.244E+01 | 5.822E+01 | 179.47 | |
| RA-226 | 1600.00Y | 1.00 | 4.402E+00 | 4.402E+00 | 82.56E+00 | 1875.72 | |
| AC-228 | 5.75Y | 1.00 | 7.638E+00 | 7.642E+00 | 12.29E+00 | 160.79 | |
| TH-228 | 1.91Y | 1.00 | 3.109E+00 | 3.114E+00 | 7.810E+00 | 250.79 | |
| TH-232 | 1.41E+10Y | 1.00 | 7.638E+00 | 7.638E+00 | 12.28E+00 | 160.79 | |
| U-235 | 7.04E+08Y | 1.00 | 2.674E-01 | 2.674E-01 | 50.15E-01 | 1875.72 | K |
| Total Activity : | | | 5.550E+01 | 5.550E+01 | | | |

Grand Total Activity : 5.550E+01 5.550E+01

Flags: "K" = Keyline not found
 "E" = Manually edited

"M" = Manually accepted
 "A" = Nuclide specific abn. limit

Unidentified Energy Lines

Page : 3

Sample ID : 10L29543-1

Acquisition date : 10-AUG-2006 18:09:33

| It | Energy | Area | Bkgnd | FWHM | Channel | Left | Pw | Cts/Sec | %Err | %Eff | Flags |
|----|---------|------|-------|------|---------|------|----|----------|------|----------|-------|
| 4 | 63.35 | 102 | 1275 | 1.25 | 125.88 | 120 | 17 | 1.89E-03 | **** | 9.84E-01 | |
| 4 | 66.34 | 256 | 1656 | 1.58 | 131.88 | 120 | 17 | 4.77E-03 | 60.3 | 1.14E+00 | |
| 3 | 73.10 | 6 | 1187 | 1.21 | 145.40 | 142 | 16 | 1.13E-04 | **** | 1.49E+00 | |
| 3 | 77.16 | 322 | 1230 | 1.31 | 153.55 | 142 | 16 | 6.00E-03 | 41.2 | 1.68E+00 | |
| 1 | 87.33 | 77 | 905 | 1.31 | 173.90 | 172 | 6 | 1.43E-03 | **** | 2.11E+00 | |
| 1 | 92.75 | 61 | 1377 | 1.14 | 184.74 | 181 | 9 | 1.13E-03 | **** | 2.29E+00 | |
| 1 | 139.71 | 215 | 1388 | 1.69 | 278.76 | 275 | 9 | 4.01E-03 | 63.9 | 2.89E+00 | |
| 1 | 198.37 | 29 | 1138 | 1.50 | 396.18 | 392 | 9 | 5.42E-04 | **** | 2.61E+00 | |
| 1 | 242.26 | 171 | 746 | 1.30 | 484.05 | 481 | 7 | 3.18E-03 | 55.4 | 2.31E+00 | |
| 1 | 295.27 | 329 | 854 | 1.21 | 590.19 | 586 | 10 | 6.13E-03 | 37.8 | 1.99E+00 | |
| 1 | 352.01 | 537 | 591 | 1.10 | 703.80 | 699 | 9 | 1.00E-02 | 21.5 | 1.73E+00 | |
| 1 | 596.10 | 122 | 295 | 2.33 | 1192.52 | 1188 | 10 | 2.28E-03 | 55.7 | 1.13E+00 | |
| 1 | 609.27 | 569 | 373 | 1.57 | 1218.89 | 1211 | 14 | 1.06E-02 | 18.9 | 1.11E+00 | |
| 1 | 1120.12 | 103 | 157 | 1.89 | 2241.94 | 2235 | 14 | 1.93E-03 | 60.8 | 6.78E-01 | |
| 1 | 1238.15 | 64 | 85 | 1.75 | 2478.35 | 2475 | 11 | 1.19E-03 | 72.2 | 6.26E-01 | |
| 1 | 1764.38 | 72 | 68 | 2.21 | 3532.53 | 3523 | 17 | 1.33E-03 | 68.1 | 4.74E-01 | |

Flags: "T" = Tentatively associated

Summary of Nuclide Activity

Total number of lines in spectrum 21
 Number of unidentified lines 16
 Number of lines tentatively identified by NID 5 23.81%

Nuclide Type : natural

| Nuclide | Hlife | Decay | Wtd Mean | Wtd Mean | Decay Corr | 2-Sigma | 2-Sigma Error | %Error | Flags |
|------------------|-----------|-------|-------------|------------|------------|----------|---------------|--------|-------|
| | | | Uncorrected | Decay Corr | | | | | |
| K-40 | 1.28E+09Y | 1.00 | 3.244E+01 | 3.244E+01 | 5.822E+01 | 179.47 | | | |
| RA-226 | 1600.00Y | 1.00 | 4.402E+00 | 4.402E+00 | 82.56E+00 | 1875.72 | | | |
| AC-228 | 5.75Y | 1.00 | 5.968E-02 | 5.971E-02 | 1622.E-02 | 27166.14 | | | |
| TH-228 | 1.91Y | 1.00 | 3.109E+00 | 3.114E+00 | 7.810E+00 | 250.79 | | | |
| TH-232 | 1.41E+10Y | 1.00 | 7.578E+00 | 7.578E+00 | 10.58E+00 | 139.64 | | | |
| Total Activity : | | | 4.759E+01 | 4.759E+01 | | | | | |

Grand Total Activity : 4.759E+01 4.759E+01

Flags: "K" = Keyline not found "M" = Manually accepted
 "E" = Manually edited "A" = Nuclide specific abn. limit

Interference Report

| Interfering | | Interfered | |
|-------------|--------|------------|--------|
| Nuclide | Line | Nuclide | Line |
| TH-232 | 911.07 | AC-228 | 911.07 |

Combined Activity-MDA Report

---- Identified Nuclides ----

| Nuclide | Activity (pCi/L) | Act error | MDA (pCi/L) | MDA error | Act/MDA |
|---------|---------------------|-----------|----------------|-----------|---------|
| K-40 | 3.244E+01 | 5.822E+01 | 5.034E+01 | 0.000E+00 | 0.644 |
| RA-226 | 4.402E+00 | 8.256E+01 | 1.253E+02 | 0.000E+00 | 0.035 |
| AC-228 | 5.971E-02 | 1.622E+01 | 1.889E+01 | 0.000E+00 | 0.003 |
| TH-228 | 3.114E+00 | 7.810E+00 | 9.496E+00 | 0.000E+00 | 0.328 |
| TH-232 | 7.578E+00 | 1.058E+01 | 2.104E+01 | 0.000E+00 | 0.360 |

---- Non-Identified Nuclides ----

| Nuclide | Key-Line Activity (pCi/L) | K.L. Ided | Act error | MDA (pCi/L) | MDA error | Act/MDA |
|---------|---------------------------------|--------------|-----------|----------------|-----------|---------|
| BE-7 | -2.178E+00 | | 2.873E+01 | 4.676E+01 | 0.000E+00 | -0.047 |
| NA-24 | -2.564E+01 | | 2.092E+01 | 3.193E+01 | 0.000E+00 | -0.803 |
| CR-51 | 5.595E+00 | | 2.832E+01 | 4.704E+01 | 0.000E+00 | 0.119 |
| MN-54 | -1.318E+00 | | 3.420E+00 | 5.517E+00 | 0.000E+00 | -0.239 |
| CO-57 | 1.485E+00 | | 2.932E+00 | 4.874E+00 | 0.000E+00 | 0.305 |
| CO-58 | -3.298E+00 | | 3.170E+00 | 4.984E+00 | 0.000E+00 | -0.662 |
| FE-59 | 5.599E+00 | | 6.064E+00 | 1.041E+01 | 0.000E+00 | 0.538 |
| CO-60 | 2.308E+00 | | 3.151E+00 | 5.358E+00 | 0.000E+00 | 0.431 |
| ZN-65 | 2.699E+01 | | 8.231E+00 | 1.361E+01 | 0.000E+00 | 1.983 |
| SE-75 | -1.872E+00 | | 4.315E+00 | 7.129E+00 | 0.000E+00 | -0.263 |
| SR-85 | 4.067E+01 | | 4.079E+00 | 7.880E+00 | 0.000E+00 | 5.161 |
| Y-88 | -4.820E+00 | | 3.482E+00 | 5.188E+00 | 0.000E+00 | -0.929 |
| NB-94 | -4.269E+00 | | 3.294E+00 | 5.209E+00 | 0.000E+00 | -0.820 |
| NB-95 | 6.892E+00 | | 3.260E+00 | 5.725E+00 | 0.000E+00 | 1.204 |
| ZR-95 | -4.210E+00 | | 5.730E+00 | 9.169E+00 | 0.000E+00 | -0.459 |
| MO-99 | 1.728E+01 | | 3.616E+01 | 6.044E+01 | 0.000E+00 | 0.286 |
| RU-103 | -3.427E+00 | | 3.482E+00 | 5.520E+00 | 0.000E+00 | -0.621 |
| RU-106 | -2.689E+00 | | 3.080E+01 | 5.023E+01 | 0.000E+00 | -0.054 |
| AG-110m | -4.556E-01 | | 3.216E+00 | 5.293E+00 | 0.000E+00 | -0.086 |
| SN-113 | 2.704E-01 | | 4.211E+00 | 6.930E+00 | 0.000E+00 | 0.039 |
| SB-124 | 3.076E+00 | | 7.538E+00 | 5.627E+00 | 0.000E+00 | 0.547 |
| SB-125 | -8.864E-01 | | 9.697E+00 | 1.585E+01 | 0.000E+00 | -0.056 |
| TE-129M | 6.754E+00 | | 3.879E+01 | 6.364E+01 | 0.000E+00 | 0.106 |
| I-131 | -1.820E+00 | | 3.847E+00 | 6.272E+00 | 0.000E+00 | -0.290 |
| BA-133 | 2.735E+01 | | 5.789E+00 | 9.139E+00 | 0.000E+00 | 2.992 |
| CS-134 | 1.805E+01 | | 6.898E+00 | 7.082E+00 | 0.000E+00 | 2.548 |
| CS-136 | -6.216E-01 | | 3.393E+00 | 5.515E+00 | 0.000E+00 | -0.113 |
| CS-137 | 1.022E+00 | | 3.575E+00 | 5.959E+00 | 0.000E+00 | 0.171 |
| CE-139 | 2.593E+00 | | 3.098E+00 | 5.137E+00 | 0.000E+00 | 0.505 |
| BA-140 | 5.204E+00 | | 1.266E+01 | 2.081E+01 | 0.000E+00 | 0.250 |
| LA-140 | 1.597E+00 | | 3.968E+00 | 6.711E+00 | 0.000E+00 | 0.238 |
| CE-141 | 4.663E+00 | | 6.155E+00 | 8.724E+00 | 0.000E+00 | 0.535 |
| CE-144 | 8.195E-01 | | 2.690E+01 | 3.766E+01 | 0.000E+00 | 0.022 |
| EU-152 | -2.060E+01 | | 1.248E+01 | 1.654E+01 | 0.000E+00 | -1.246 |
| EU-154 | 2.310E+00 | | 6.163E+00 | 1.023E+01 | 0.000E+00 | 0.226 |
| U-235 | 3.575E+01 | | 2.760E+01 | 3.956E+01 | 0.000E+00 | 0.904 |
| U-238 | 4.894E+02 | | 3.474E+02 | 6.087E+02 | 0.000E+00 | 0.804 |
| AM-241 | 2.165E+01 | | 2.842E+01 | 3.977E+01 | 0.000E+00 | 0.544 |

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A,10L29543-1      ,08/11/2006 09:04,08/09/2006 10:00,    1.009E+00,L29543-1 WG EX
B,10L29543-1      ,LIBD                                ,08/07/2006 09:39,101L082304
C,K-40      ,YES,    3.244E+01,    5.822E+01,    5.034E+01,,    0.644
C,RA-226    ,YES,    4.402E+00,    8.256E+01,    1.253E+02,,    0.035
C,AC-228    ,YES,    5.971E-02,    1.622E+01,    1.889E+01,,    0.003
C,TH-228    ,YES,    3.114E+00,    7.810E+00,    9.496E+00,,    0.328
C,TH-232    ,YES,    7.578E+00,    1.058E+01,    2.104E+01,,    0.360
C,BE-7      ,NO ,    -2.178E+00,    2.873E+01,    4.676E+01,,   -0.047
C,NA-24     ,NO ,    -2.564E+01,    2.092E+01,    3.193E+01,,   -0.803
C,CR-51     ,NO ,    5.595E+00,    2.832E+01,    4.704E+01,,    0.119
C,MN-54     ,NO ,    -1.318E+00,    3.420E+00,    5.517E+00,,   -0.239
C,CO-57     ,NO ,    1.485E+00,    2.932E+00,    4.874E+00,,    0.305
C,CO-58     ,NO ,    -3.298E+00,    3.170E+00,    4.984E+00,,   -0.662
C,FE-59     ,NO ,    5.599E+00,    6.064E+00,    1.041E+01,,    0.538
C,CO-60     ,NO ,    2.308E+00,    3.151E+00,    5.358E+00,,    0.431
C,ZN-65     ,NO ,    2.699E+01,    8.231E+00,    1.361E+01,,    1.983
C,SE-75     ,NO ,    -1.872E+00,    4.315E+00,    7.129E+00,,   -0.263
C,SR-85     ,NO ,    4.067E+01,    4.079E+00,    7.880E+00,,    5.161
C,Y-88      ,NO ,    -4.820E+00,    3.482E+00,    5.188E+00,,   -0.929
C,NB-94     ,NO ,    -4.269E+00,    3.294E+00,    5.209E+00,,   -0.820
C,NB-95     ,NO ,    6.892E+00,    3.260E+00,    5.725E+00,,    1.204
C,ZR-95     ,NO ,    -4.210E+00,    5.730E+00,    9.169E+00,,   -0.459
C,MO-99     ,NO ,    1.728E+01,    3.616E+01,    6.044E+01,,    0.286
C,RU-103    ,NO ,    -3.427E+00,    3.482E+00,    5.520E+00,,   -0.621
C,RU-106    ,NO ,    -2.689E+00,    3.080E+01,    5.023E+01,,   -0.054
C,AG-110m   ,NO ,    -4.556E-01,    3.216E+00,    5.293E+00,,   -0.086
C,SN-113    ,NO ,    2.704E-01,    4.211E+00,    6.930E+00,,    0.039
C,SB-124    ,NO ,    3.076E+00,    7.538E+00,    5.627E+00,,    0.547
C,SB-125    ,NO ,    -8.864E-01,    9.697E+00,    1.585E+01,,   -0.056
C,TE-129M   ,NO ,    6.754E+00,    3.879E+01,    6.364E+01,,    0.106
C,I-131     ,NO ,    -1.820E+00,    3.847E+00,    6.272E+00,,   -0.290
C,BA-133    ,NO ,    2.735E+01,    5.789E+00,    9.139E+00,,    2.992
C,CS-134    ,NO ,    1.805E+01,    6.898E+00,    7.082E+00,,    2.548
C,CS-136    ,NO ,    -6.216E-01,    3.393E+00,    5.515E+00,,   -0.113
C,CS-137    ,NO ,    1.022E+00,    3.575E+00,    5.959E+00,,    0.171
C,CE-139    ,NO ,    2.593E+00,    3.098E+00,    5.137E+00,,    0.505
C,BA-140    ,NO ,    5.204E+00,    1.266E+01,    2.081E+01,,    0.250
C,LA-140    ,NO ,    1.597E+00,    3.968E+00,    6.711E+00,,    0.238
C,CE-141    ,NO ,    4.663E+00,    6.155E+00,    8.724E+00,,    0.535
C,CE-144    ,NO ,    8.195E-01,    2.690E+01,    3.766E+01,,    0.022
C,EU-152    ,NO ,    -2.060E+01,    1.248E+01,    1.654E+01,,   -1.246
C,EU-154    ,NO ,    2.310E+00,    6.163E+00,    1.023E+01,,    0.226
C,U-235     ,NO ,    3.575E+01,    2.760E+01,    3.956E+01,,    0.904
C,U-238     ,NO ,    4.894E+02,    3.474E+02,    6.087E+02,,    0.804
C,AM-241    ,NO ,    2.165E+01,    2.842E+01,    3.977E+01,,    0.544

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Sec. Review: *kes* Analyst: *SM* LIMS: ✓

VAX/VMS Teledyne Brown Eng. Laboratory Gamma Report: 11-AUG-2006 09:07:51.58
TBE11 P-20610B HpGe ***** Aquisition Date/Time: 10-AUG-2006 18:09:41.92

LIMS No., Customer Name, Client ID: L29543-2 L29543-2 WG EX/DRES

Sample ID : 11L29543-2 Smple Date: 9-AUG-2006 11:25:00.0
Sample Type : WG Geometry : 113L082304
Quantity : 3.16910E+00 L BKGFILE : 11BG072806MT
Start Channel : 40 Energy Tol : 1.00000 Real Time : 0 08:00:11.68
End Channel : 4090 Pk Srch Sens: 5.00000 Live time : 0 08:00:00.00
MDA Constant : 0.00 Library Used: LIBD

| Pk | It | Energy | Area | Bkgnd | FWHM | Channel | %Eff | Cts/Sec | %Err | Fit |
|----|----|----------|------|-------|------|---------|----------|----------|-------|----------|
| 1 | 0 | 66.45 | 157 | 1312 | 0.98 | 132.49 | 6.91E-01 | 5.45E-03 | 39.2 | |
| 2 | 7 | 82.49 | 190 | 664 | 1.39 | 164.66 | 1.21E+00 | 6.61E-03 | 19.4 | 7.39E+00 |
| 3 | 7 | 84.52* | 58 | 1216 | 1.38 | 168.74 | 1.27E+00 | 2.03E-03 | 113.0 | |
| 4 | 0 | 139.69* | 201 | 653 | 1.55 | 279.42 | 1.90E+00 | 6.98E-03 | 23.1 | |
| 5 | 0 | 185.06* | 104 | 930 | 1.26 | 370.39 | 1.80E+00 | 3.61E-03 | 63.4 | |
| 6 | 0 | 198.31* | 154 | 662 | 1.39 | 396.97 | 1.75E+00 | 5.34E-03 | 32.8 | |
| 7 | 0 | 238.49* | 63 | 443 | 1.42 | 477.55 | 1.58E+00 | 2.18E-03 | 65.5 | |
| 8 | 0 | 241.68 | 144 | 469 | 1.35 | 483.93 | 1.56E+00 | 4.99E-03 | 27.5 | |
| 9 | 0 | 295.11* | 117 | 533 | 1.22 | 591.06 | 1.37E+00 | 4.07E-03 | 40.0 | |
| 10 | 0 | 351.79* | 240 | 356 | 1.25 | 704.67 | 1.20E+00 | 8.32E-03 | 17.7 | |
| 11 | 0 | 596.05 | 152 | 195 | 1.22 | 1194.02 | 8.03E-01 | 5.29E-03 | 20.0 | |
| 12 | 0 | 609.04* | 242 | 220 | 1.47 | 1220.02 | 7.90E-01 | 8.40E-03 | 15.4 | |
| 13 | 0 | 911.60* | 21 | 140 | 1.87 | 1825.56 | 5.74E-01 | 7.12E-04 | 154.7 | |
| 14 | 0 | 1120.76* | 36 | 122 | 1.63 | 2243.79 | 4.86E-01 | 1.26E-03 | 74.7 | |
| 15 | 0 | 1460.62* | 85 | 54 | 1.98 | 2922.71 | 3.92E-01 | 2.94E-03 | 29.6 | |
| 16 | 0 | 1761.96 | 95 | 37 | 2.48 | 3524.01 | 3.39E-01 | 3.31E-03 | 17.5 | |

Flag: "*" = Peak area was modified by background subtraction

Nuclide Line Activity Report

Nuclide Type: natural

| Nuclide | Energy | Area | %Abn | %Eff | Uncorrected pCi/L | Decay Corr pCi/L | 2-Sigma %Error |
|---------|---------|-------|--------|-----------|----------------------|---------------------|-------------------|
| K-40 | 1460.81 | 85 | 10.67* | 3.919E-01 | 5.993E+01 | 5.993E+01 | 59.29 |
| AC-228 | 835.50 | ----- | 1.75 | 6.158E-01 | ----- | Line Not Found | ----- |
| | 911.07 | 21 | 27.70* | 5.743E-01 | 3.818E+00 | 3.820E+00 | 309.37 |
| TH-228 | 238.63 | 63 | 44.60* | 1.577E+00 | 2.646E+00 | 2.650E+00 | 131.07 |
| | 240.98 | 144 | 3.95 | 1.564E+00 | 6.885E+01 | 6.895E+01 | 54.93 |
| U-235 | 143.76 | ----- | 10.50* | 1.906E+00 | ----- | Line Not Found | ----- |
| | 163.35 | ----- | 4.70 | 1.876E+00 | ----- | Line Not Found | ----- |
| | 185.71 | 104 | 54.00 | 1.802E+00 | 3.163E+00 | 3.163E+00 | 126.76 |
| | 205.31 | ----- | 4.70 | 1.718E+00 | ----- | Line Not Found | ----- |

Flag: "*" = Keyline

Summary of Nuclide Activity
 Sample ID : 11L29543-2

Page : 2
 Acquisition date : 10-AUG-2006 18:09:41

Total number of lines in spectrum 16
 Number of unidentified lines 11
 Number of lines tentatively identified by NID 5 31.25%

Nuclide Type : natural

| Nuclide | Hlife | Decay | Uncorrected pCi/L | Decay Corr pCi/L | Decay Corr 2-Sigma Error | 2-Sigma %Error | Flags |
|------------------|-----------|-------|----------------------|---------------------|-----------------------------|-------------------|-------|
| K-40 | 1.28E+09Y | 1.00 | 5.993E+01 | 5.993E+01 | 3.554E+01 | 59.29 | |
| AC-228 | 5.75Y | 1.00 | 3.818E+00 | 3.820E+00 | 11.82E+00 | 309.37 | |
| TH-228 | 1.91Y | 1.00 | 2.646E+00 | 2.650E+00 | 3.473E+00 | 131.07 | |
| U-235 | 7.04E+08Y | 1.00 | 3.163E+00 | 3.163E+00 | 4.010E+00 | 126.76 | K |
| Total Activity : | | | 6.956E+01 | 6.957E+01 | | | |

Grand Total Activity : 6.956E+01 6.957E+01

Flags: "K" = Keyline not found
 "E" = Manually edited

"M" = Manually accepted
 "A" = Nuclide specific abn. limit

Unidentified Energy Lines
Sample ID : 11L29543-2

Page : 3
Acquisition date : 10-AUG-2006 18:09:41

| It | Energy | Area | Bkgnd | FWHM | Channel | Left | Pw | Cts/Sec | %Err | %Eff | Flags |
|----|---------|------|-------|------|---------|------|----|----------|------|----------|-------|
| 0 | 66.45 | 157 | 1312 | 0.98 | 132.49 | 129 | 7 | 5.45E-03 | 78.3 | 6.91E-01 | |
| 7 | 82.49 | 190 | 664 | 1.39 | 164.66 | 162 | 11 | 6.61E-03 | 38.8 | 1.21E+00 | |
| 7 | 84.52 | 58 | 1216 | 1.38 | 168.74 | 162 | 11 | 2.03E-03 | **** | 1.27E+00 | |
| 0 | 139.69 | 201 | 653 | 1.55 | 279.42 | 276 | 7 | 6.98E-03 | 46.1 | 1.90E+00 | |
| 0 | 198.31 | 154 | 662 | 1.39 | 396.97 | 393 | 9 | 5.34E-03 | 65.6 | 1.75E+00 | |
| 0 | 295.11 | 117 | 533 | 1.22 | 591.06 | 587 | 10 | 4.07E-03 | 80.0 | 1.37E+00 | |
| 0 | 351.79 | 240 | 356 | 1.25 | 704.67 | 700 | 10 | 8.32E-03 | 35.3 | 1.20E+00 | |
| 0 | 596.05 | 152 | 195 | 1.22 | 1194.02 | 1189 | 12 | 5.29E-03 | 40.1 | 8.03E-01 | |
| 0 | 609.04 | 242 | 220 | 1.47 | 1220.02 | 1214 | 13 | 8.40E-03 | 30.8 | 7.90E-01 | |
| 0 | 1120.76 | 36 | 122 | 1.63 | 2243.79 | 2236 | 16 | 1.26E-03 | **** | 4.86E-01 | |
| 0 | 1761.96 | 95 | 37 | 2.48 | 3524.01 | 3518 | 16 | 3.31E-03 | 34.9 | 3.39E-01 | |

Flags: "T" = Tentatively associated

Summary of Nuclide Activity

| | | |
|---|----|--------|
| Total number of lines in spectrum | 16 | |
| Number of unidentified lines | 11 | |
| Number of lines tentatively identified by NID | 5 | 31.25% |

Nuclide Type : natural

| Nuclide | Hlife | Decay | Wtd Mean Uncorrected pCi/L | Wtd Mean Decay Corr pCi/L | Decay Corr 2-Sigma Error | 2-Sigma %Error | Flags |
|------------------|-----------|-------|----------------------------------|---------------------------------|-----------------------------|-------------------|-------|
| K-40 | 1.28E+09Y | 1.00 | 5.993E+01 | 5.993E+01 | 3.554E+01 | 59.29 | |
| AC-228 | 5.75Y | 1.00 | 3.818E+00 | 3.820E+00 | 11.82E+00 | 309.37 | |
| TH-228 | 1.91Y | 1.00 | 2.646E+00 | 2.650E+00 | 3.473E+00 | 131.07 | |
| U-235 | 7.04E+08Y | 1.00 | 3.163E+00 | 3.163E+00 | 4.010E+00 | 126.76 | |
| Total Activity : | | | 6.956E+01 | 6.957E+01 | | | |

Grand Total Activity : 6.956E+01 6.957E+01

Flags: "K" = Keyline not found "M" = Manually accepted
"E" = Manually edited "A" = Nuclide specific abn. limit

Interference Report

No interference correction performed

Combined Activity-MDA Report

---- Identified Nuclides ----

| Nuclide | Activity (pCi/L) | Act error | MDA (pCi/L) | MDA error | Act/MDA |
|---------|---------------------|-----------|----------------|-----------|---------|
| K-40 | 5.993E+01 | 3.554E+01 | 3.064E+01 | 0.000E+00 | 1.956 |
| AC-228 | 3.820E+00 | 1.182E+01 | 1.050E+01 | 0.000E+00 | 0.364 |
| TH-228 | 2.650E+00 | 3.473E+00 | 5.129E+00 | 0.000E+00 | 0.517 |
| U-235 | 3.163E+00 | 4.010E+00 | 2.221E+01 | 0.000E+00 | 0.142 |

---- Non-Identified Nuclides ----

| Nuclide | Key-Line Activity (pCi/L) | K.L. Ided | Act error | MDA (pCi/L) | MDA error | Act/MDA |
|---------|---------------------------------|--------------|-----------|----------------|-----------|---------|
| BE-7 | -2.064E+00 | | 1.499E+01 | 2.417E+01 | 0.000E+00 | -0.085 |
| NA-24 | -1.681E+00 | | 9.702E+00 | 1.555E+01 | 0.000E+00 | -0.108 |
| CR-51 | -9.969E+00 | | 1.558E+01 | 2.534E+01 | 0.000E+00 | -0.393 |
| MN-54 | 1.211E+00 | | 1.843E+00 | 3.105E+00 | 0.000E+00 | 0.390 |
| CO-57 | 8.559E-01 | | 1.622E+00 | 2.717E+00 | 0.000E+00 | 0.315 |
| CO-58 | 2.762E-01 | | 1.804E+00 | 2.966E+00 | 0.000E+00 | 0.093 |
| FE-59 | -5.499E-01 | | 3.505E+00 | 5.731E+00 | 0.000E+00 | -0.096 |
| CO-60 | -9.822E-03 | | 2.036E+00 | 3.312E+00 | 0.000E+00 | -0.003 |
| ZN-65 | -1.044E+00 | | 4.735E+00 | 6.500E+00 | 0.000E+00 | -0.161 |
| SE-75 | -2.115E+00 | | 2.390E+00 | 3.907E+00 | 0.000E+00 | -0.541 |
| SR-85 | 3.055E+00 | | 2.239E+00 | 3.770E+00 | 0.000E+00 | 0.810 |
| Y-88 | 5.211E-01 | | 2.195E+00 | 3.661E+00 | 0.000E+00 | 0.142 |
| NB-94 | -1.642E+00 | | 1.721E+00 | 2.699E+00 | 0.000E+00 | -0.608 |
| NB-95 | 1.567E+00 | | 1.826E+00 | 3.117E+00 | 0.000E+00 | 0.503 |
| ZR-95 | -4.113E-01 | | 3.093E+00 | 5.030E+00 | 0.000E+00 | -0.082 |
| MO-99 | 1.518E+00 | | 1.934E+01 | 3.186E+01 | 0.000E+00 | 0.048 |
| RU-103 | -5.282E-01 | | 1.808E+00 | 2.887E+00 | 0.000E+00 | -0.183 |
| RU-106 | -1.424E+01 | | 1.655E+01 | 2.635E+01 | 0.000E+00 | -0.540 |
| AG-110m | 4.564E-01 | | 1.742E+00 | 2.915E+00 | 0.000E+00 | 0.157 |
| SN-113 | -2.228E-01 | | 2.291E+00 | 3.745E+00 | 0.000E+00 | -0.059 |
| SB-124 | 1.183E+00 | | 3.168E+00 | 2.812E+00 | 0.000E+00 | 0.421 |
| SB-125 | 4.347E+00 | | 5.023E+00 | 8.478E+00 | 0.000E+00 | 0.513 |
| TE-129M | 2.273E+00 | | 2.087E+01 | 3.408E+01 | 0.000E+00 | 0.067 |
| I-131 | 1.208E+00 | | 1.925E+00 | 3.242E+00 | 0.000E+00 | 0.373 |
| BA-133 | -2.535E-01 | | 2.657E+00 | 3.745E+00 | 0.000E+00 | -0.068 |
| CS-134 | 1.059E+00 | | 2.303E+00 | 2.902E+00 | 0.000E+00 | 0.365 |
| CS-136 | 6.047E-02 | | 1.825E+00 | 2.979E+00 | 0.000E+00 | 0.020 |
| CS-137 | 2.669E-01 | | 1.932E+00 | 3.213E+00 | 0.000E+00 | 0.083 |
| CE-139 | 8.494E-01 | | 1.685E+00 | 2.789E+00 | 0.000E+00 | 0.305 |
| BA-140 | 1.788E-01 | | 6.701E+00 | 1.123E+01 | 0.000E+00 | 0.016 |
| LA-140 | 1.848E+00 | | 2.274E+00 | 3.994E+00 | 0.000E+00 | 0.463 |
| CE-141 | 1.689E+00 | | 3.138E+00 | 4.932E+00 | 0.000E+00 | 0.342 |
| CE-144 | -8.613E-01 | | 1.340E+01 | 2.081E+01 | 0.000E+00 | -0.041 |
| EU-152 | 7.326E-01 | | 5.803E+00 | 9.187E+00 | 0.000E+00 | 0.080 |
| EU-154 | 1.174E+00 | | 3.434E+00 | 5.726E+00 | 0.000E+00 | 0.205 |
| RA-226 | 2.790E+00 | | 5.408E+01 | 7.500E+01 | 0.000E+00 | 0.037 |
| TH-232 | 3.818E+00 | + | 1.181E+01 | 1.212E+01 | 0.000E+00 | 0.315 |
| U-238 | 1.199E+02 | | 1.863E+02 | 3.217E+02 | 0.000E+00 | 0.373 |
| AM-241 | -2.263E+01 | | 2.050E+01 | 3.217E+01 | 0.000E+00 | -0.703 |

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A,11L29543-2      ,08/11/2006 09:07,08/09/2006 11:25,    3.169E+00,L29543-2 L2954
B,11L29543-2      ,LIBD      ,08/07/2006 09:39,113L082304
C,K-40      ,YES,    5.993E+01,    3.554E+01,    3.064E+01,,    1.956
C,AC-228    ,YES,    3.820E+00,    1.182E+01,    1.050E+01,,    0.364
C,TH-228    ,YES,    2.650E+00,    3.473E+00,    5.129E+00,,    0.517
C,U-235     ,YES,    3.163E+00,    4.010E+00,    2.221E+01,,    0.142
C,BE-7      ,NO ,    -2.064E+00,    1.499E+01,    2.417E+01,,   -0.085
C,NA-24     ,NO ,    -1.681E+00,    9.702E+00,    1.555E+01,,   -0.108
C,CR-51     ,NO ,    -9.969E+00,    1.558E+01,    2.534E+01,,   -0.393
C,MN-54     ,NO ,    1.211E+00,    1.843E+00,    3.105E+00,,    0.390
C,CO-57     ,NO ,    8.559E-01,    1.622E+00,    2.717E+00,,    0.315
C,CO-58     ,NO ,    2.762E-01,    1.804E+00,    2.966E+00,,    0.093
C,FE-59     ,NO ,    -5.499E-01,    3.505E+00,    5.731E+00,,   -0.096
C,CO-60     ,NO ,    -9.822E-03,    2.036E+00,    3.312E+00,,   -0.003
C,ZN-65     ,NO ,    -1.044E+00,    4.735E+00,    6.500E+00,,   -0.161
C,SE-75     ,NO ,    -2.115E+00,    2.390E+00,    3.907E+00,,   -0.541
C,SR-85     ,NO ,    3.055E+00,    2.239E+00,    3.770E+00,,    0.810
C,Y-88      ,NO ,    5.211E-01,    2.195E+00,    3.661E+00,,    0.142
C,NB-94     ,NO ,    -1.642E+00,    1.721E+00,    2.699E+00,,   -0.608
C,NB-95     ,NO ,    1.567E+00,    1.826E+00,    3.117E+00,,    0.503
C,ZR-95     ,NO ,    -4.113E-01,    3.093E+00,    5.030E+00,,   -0.082
C,MO-99     ,NO ,    1.518E+00,    1.934E+01,    3.186E+01,,    0.048
C,RU-103    ,NO ,    -5.282E-01,    1.808E+00,    2.887E+00,,   -0.183
C,RU-106    ,NO ,    -1.424E+01,    1.655E+01,    2.635E+01,,   -0.540
C,AG-110m   ,NO ,    4.564E-01,    1.742E+00,    2.915E+00,,    0.157
C,SN-113    ,NO ,    -2.228E-01,    2.291E+00,    3.745E+00,,   -0.059
C,SB-124    ,NO ,    1.183E+00,    3.168E+00,    2.812E+00,,    0.421
C,SB-125    ,NO ,    4.347E+00,    5.023E+00,    8.478E+00,,    0.513
C,TE-129M   ,NO ,    2.273E+00,    2.087E+01,    3.408E+01,,    0.067
C,I-131     ,NO ,    1.208E+00,    1.925E+00,    3.242E+00,,    0.373
C,BA-133    ,NO ,    -2.535E-01,    2.657E+00,    3.745E+00,,   -0.068
C,CS-134    ,NO ,    1.059E+00,    2.303E+00,    2.902E+00,,    0.365
C,CS-136    ,NO ,    6.047E-02,    1.825E+00,    2.979E+00,,    0.020
C,CS-137    ,NO ,    2.669E-01,    1.932E+00,    3.213E+00,,    0.083
C,CE-139    ,NO ,    8.494E-01,    1.685E+00,    2.789E+00,,    0.305
C,BA-140    ,NO ,    1.788E-01,    6.701E+00,    1.123E+01,,    0.016
C,LA-140    ,NO ,    1.848E+00,    2.274E+00,    3.994E+00,,    0.463
C,CE-141    ,NO ,    1.689E+00,    3.138E+00,    4.932E+00,,    0.342
C,CE-144    ,NO ,    -8.613E-01,    1.340E+01,    2.081E+01,,   -0.041
C,EU-152    ,NO ,    7.326E-01,    5.803E+00,    9.187E+00,,    0.080
C,EU-154    ,NO ,    1.174E+00,    3.434E+00,    5.726E+00,,    0.205
C,RA-226    ,NO ,    2.790E+00,    5.408E+01,    7.500E+01,,    0.037
C,TH-232    ,NO ,    3.818E+00,    1.181E+01,    1.212E+01,,    0.315
C,U-238     ,NO ,    1.199E+02,    1.863E+02,    3.217E+02,,    0.373
C,AM-241    ,NO ,    -2.263E+01,    2.050E+01,    3.217E+01,,   -0.703

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Sec. Review: Analyst: LIMS: ✓

VAX/VMS Teledyne Brown Eng. Laboratory Gamma Report: 11-AUG-2006 09:12:32.12
TBE14 P-10933A HpGe ***** Aquisition Date/Time: 10-AUG-2006 18:09:58.30

LIMS No., Customer Name, Client ID: L29543-3 WG EX/DRES

Sample ID : 14L29543-3 Smple Date: 9-AUG-2006 11:45:00.0
Sample Type : WG Geometry : 143L082304
Quantity : 3.20130E+00 L BKGFILE : 14BG072806MT
Start Channel : 90 Energy Tol : 1.00000 Real Time : 0 08:00:04.99
End Channel : 4090 Pk Srch Sens: 5.00000 Live time : 0 08:00:00.00
MDA Constant : 0.00 Library Used: LIBD

| Pk | It | Energy | Area | Bkgnd | FWHM | Channel | %Eff | Cts/Sec | %Err | Fit |
|----|----|----------|------|-------|------|---------|----------|----------|-------|----------|
| 1 | 1 | 66.35* | 184 | 1364 | 1.89 | 133.83 | 5.12E-01 | 6.40E-03 | 40.6 | 1.11E+00 |
| 2 | 1 | 92.71* | 32 | 998 | 1.68 | 186.80 | 1.28E+00 | 1.11E-03 | 196.1 | 7.46E-01 |
| 3 | 1 | 139.89* | 215 | 919 | 1.57 | 281.60 | 1.89E+00 | 7.46E-03 | 27.3 | 1.45E+00 |
| 4 | 1 | 185.97* | 123 | 1284 | 1.95 | 374.15 | 1.88E+00 | 4.26E-03 | 66.9 | 2.36E+00 |
| 5 | 1 | 198.63* | 210 | 895 | 1.31 | 399.57 | 1.83E+00 | 7.28E-03 | 29.8 | 1.69E+00 |
| 6 | 0 | 238.14* | 21 | 1055 | 1.40 | 478.89 | 1.68E+00 | 7.37E-04 | 337.9 | |
| 7 | 1 | 295.64* | 124 | 506 | 1.45 | 594.29 | 1.46E+00 | 4.30E-03 | 37.0 | 1.36E+00 |
| 8 | 1 | 339.38 | 51 | 499 | 2.31 | 682.03 | 1.31E+00 | 1.78E-03 | 88.9 | 2.72E+00 |
| 9 | 1 | 352.52* | 287 | 615 | 2.08 | 708.39 | 1.28E+00 | 9.97E-03 | 21.3 | 3.06E+00 |
| 10 | 1 | 596.00 | 121 | 288 | 2.73 | 1196.22 | 8.48E-01 | 4.20E-03 | 32.3 | 2.58E+00 |
| 11 | 1 | 609.55* | 295 | 215 | 2.28 | 1223.35 | 8.33E-01 | 1.03E-02 | 13.3 | 1.40E+00 |
| 12 | 1 | 1120.74* | 87 | 105 | 2.94 | 2244.43 | 5.30E-01 | 3.01E-03 | 30.0 | 1.03E+00 |
| 13 | 1 | 1377.41 | 32 | 67 | 1.38 | 2755.58 | 4.56E-01 | 1.10E-03 | 63.8 | 9.77E-01 |
| 14 | 1 | 1461.69* | 45 | 93 | 2.44 | 2923.21 | 4.36E-01 | 1.58E-03 | 71.2 | 1.18E+00 |
| 15 | 1 | 1766.13* | 50 | 84 | 3.19 | 3527.79 | 3.79E-01 | 1.74E-03 | 50.6 | 1.58E+00 |

Flag: "*" = Peak area was modified by background subtraction

Nuclide Line Activity Report

Nuclide Type: natural

| Nuclide | Energy | Area | %Abn | %Eff | Uncorrected pCi/L | Decay Corr pCi/L | 2-Sigma %Error |
|---------|---------|-------|--------|-----------|----------------------|---------------------|-------------------|
| K-40 | 1460.81 | 45 | 10.67* | 4.361E-01 | 2.862E+01 | 2.862E+01 | 142.41 |
| RA-226 | 186.21 | 123 | 3.28* | 1.876E+00 | 5.842E+01 | 5.842E+01 | 133.78 |
| TH-228 | 238.63 | 21 | 44.60* | 1.677E+00 | 8.318E-01 | 8.330E-01 | 675.78 |
| | 240.98 | ----- | 3.95 | 1.666E+00 | ----- | Line Not Found | ----- |
| U-235 | 143.76 | ----- | 10.50* | 1.907E+00 | ----- | Line Not Found | ----- |
| | 163.35 | ----- | 4.70 | 1.923E+00 | ----- | Line Not Found | ----- |
| | 185.71 | 123 | 54.00 | 1.876E+00 | 3.549E+00 | 3.549E+00 | 133.78 |
| | 205.31 | ----- | 4.70 | 1.809E+00 | ----- | Line Not Found | ----- |

Flag: "*" = Keyline

Summary of Nuclide Activity

Page : 2

Sample ID : 14L29543-3

Acquisition date : 10-AUG-2006 18:09:58

Total number of lines in spectrum 15
 Number of unidentified lines 12
 Number of lines tentatively identified by NID 3 20.00%

Nuclide Type : natural

| Nuclide | Hlife | Decay | Uncorrected pCi/L | Decay Corr pCi/L | Decay Corr 2-Sigma Error | 2-Sigma %Error | Flags |
|------------------|-----------|-------|----------------------|---------------------|-----------------------------|-------------------|-------|
| K-40 | 1.28E+09Y | 1.00 | 2.862E+01 | 2.862E+01 | 4.076E+01 | 142.41 | |
| RA-226 | 1600.00Y | 1.00 | 5.842E+01 | 5.842E+01 | 7.815E+01 | 133.78 | |
| TH-228 | 1.91Y | 1.00 | 8.318E-01 | 8.330E-01 | 56.29E-01 | 675.78 | |
| U-235 | 7.04E+08Y | 1.00 | 3.549E+00 | 3.549E+00 | 4.747E+00 | 133.78 | K |
| Total Activity : | | | 9.143E+01 | 9.143E+01 | | | |

Grand Total Activity : 9.143E+01 9.143E+01

Flags: "K" = Keyline not found
 "E" = Manually edited

"M" = Manually accepted
 "A" = Nuclide specific abn. limit

Unidentified Energy Lines

Page : 3

Sample ID : 14L29543-3

Acquisition date : 10-AUG-2006 18:09:58

| It | Energy | Area | Bkgnd | FWHM | Channel | Left | Pw | Cts/Sec | %Err | %Eff | Flags |
|----|---------|------|-------|------|---------|------|----|----------|------|----------|-------|
| 1 | 66.35 | 184 | 1364 | 1.89 | 133.83 | 129 | 11 | 6.40E-03 | 81.2 | 5.12E-01 | |
| 1 | 92.71 | 32 | 998 | 1.68 | 186.80 | 182 | 9 | 1.11E-03 | **** | 1.28E+00 | |
| 1 | 139.89 | 215 | 919 | 1.57 | 281.60 | 277 | 9 | 7.46E-03 | 54.5 | 1.89E+00 | |
| 1 | 198.63 | 210 | 895 | 1.31 | 399.57 | 394 | 11 | 7.28E-03 | 59.5 | 1.83E+00 | |
| 1 | 295.64 | 124 | 506 | 1.45 | 594.29 | 590 | 9 | 4.30E-03 | 74.1 | 1.46E+00 | |
| 1 | 339.38 | 51 | 499 | 2.31 | 682.03 | 674 | 12 | 1.78E-03 | **** | 1.31E+00 | |
| 1 | 352.52 | 287 | 615 | 2.08 | 708.39 | 701 | 16 | 9.97E-03 | 42.6 | 1.28E+00 | |
| 1 | 596.00 | 121 | 288 | 2.73 | 1196.22 | 1190 | 15 | 4.20E-03 | 64.7 | 8.48E-01 | |
| 1 | 609.55 | 295 | 215 | 2.28 | 1223.35 | 1217 | 14 | 1.03E-02 | 26.7 | 8.33E-01 | |
| 1 | 1120.74 | 87 | 105 | 2.94 | 2244.43 | 2237 | 15 | 3.01E-03 | 60.0 | 5.30E-01 | |
| 1 | 1377.41 | 32 | 67 | 1.38 | 2755.58 | 2747 | 17 | 1.10E-03 | **** | 4.56E-01 | |
| 1 | 1766.13 | 50 | 84 | 3.19 | 3527.79 | 3519 | 21 | 1.74E-03 | **** | 3.79E-01 | |

Flags: "T" = Tentatively associated

Summary of Nuclide Activity

Total number of lines in spectrum 15
 Number of unidentified lines 12
 Number of lines tentatively identified by NID 3 20.00%

Nuclide Type : natural

| Nuclide | Hlife | Decay | Wtd Mean | Wtd Mean | Decay Corr | 2-Sigma | 2-Sigma | Error | %Error | Flags |
|------------------|-----------|-------|-------------|------------|------------|---------|---------|-------|--------|-------|
| | | | Uncorrected | Decay Corr | | | | | | |
| K-40 | 1.28E+09Y | 1.00 | 2.862E+01 | 2.862E+01 | 4.076E+01 | 142.41 | | | | |
| RA-226 | 1600.00Y | 1.00 | 5.842E+01 | 5.842E+01 | 7.815E+01 | 133.78 | | | | |
| TH-228 | 1.91Y | 1.00 | 8.318E-01 | 8.330E-01 | 56.29E-01 | 675.78 | | | | |
| Total Activity : | | | 8.788E+01 | 8.788E+01 | | | | | | |

Grand Total Activity : 8.788E+01 8.788E+01

Flags: "K" = Keyline not found "M" = Manually accepted
 "E" = Manually edited "A" = Nuclide specific abn. limit

Interference Report

No interference correction performed

Combined Activity-MDA Report

---- Identified Nuclides ----

| Nuclide | Activity (pCi/L) | Act error | MDA (pCi/L) | MDA error | Act/MDA |
|---------|---------------------|-----------|----------------|-----------|---------|
| K-40 | 2.862E+01 | 4.076E+01 | 2.419E+01 | 0.000E+00 | 1.183 |
| RA-226 | 5.842E+01 | 7.815E+01 | 6.571E+01 | 0.000E+00 | 0.889 |
| TH-228 | 8.330E-01 | 5.629E+00 | 5.303E+00 | 0.000E+00 | 0.157 |

---- Non-Identified Nuclides ----

| Nuclide | Key-Line Activity (pCi/L) | K.L. Ided | Act error | MDA (pCi/L) | MDA error | Act/MDA |
|---------|---------------------------------|--------------|-----------|----------------|-----------|---------|
| BE-7 | -3.138E+00 | | 1.415E+01 | 2.328E+01 | 0.000E+00 | -0.135 |
| NA-24 | 2.692E+00 | | 8.963E+00 | 1.279E+01 | 0.000E+00 | 0.210 |
| CR-51 | -2.084E-01 | | 1.446E+01 | 2.337E+01 | 0.000E+00 | -0.009 |
| MN-54 | 9.821E-01 | | 1.643E+00 | 2.828E+00 | 0.000E+00 | 0.347 |
| CO-57 | 1.566E-01 | | 1.697E+00 | 2.855E+00 | 0.000E+00 | 0.055 |
| CO-58 | -1.451E-01 | | 1.724E+00 | 2.874E+00 | 0.000E+00 | -0.050 |
| FE-59 | 3.009E+00 | | 3.157E+00 | 5.487E+00 | 0.000E+00 | 0.548 |
| CO-60 | -1.847E-02 | | 1.645E+00 | 2.664E+00 | 0.000E+00 | -0.007 |
| ZN-65 | -8.688E-01 | | 3.982E+00 | 5.451E+00 | 0.000E+00 | -0.159 |
| SE-75 | 1.427E+00 | | 2.250E+00 | 3.737E+00 | 0.000E+00 | 0.382 |
| SR-85 | 4.995E+00 | | 2.166E+00 | 3.809E+00 | 0.000E+00 | 1.311 |
| Y-88 | -1.171E+00 | | 1.815E+00 | 2.797E+00 | 0.000E+00 | -0.419 |
| NB-94 | -1.254E+00 | | 1.716E+00 | 2.688E+00 | 0.000E+00 | -0.466 |
| NB-95 | 9.325E-01 | | 1.736E+00 | 2.883E+00 | 0.000E+00 | 0.323 |
| ZR-95 | 2.259E+00 | | 2.994E+00 | 5.036E+00 | 0.000E+00 | 0.449 |
| MO-99 | 1.408E+01 | | 1.862E+01 | 3.132E+01 | 0.000E+00 | 0.450 |
| RU-103 | -5.078E-01 | | 1.769E+00 | 2.897E+00 | 0.000E+00 | -0.175 |
| RU-106 | -7.891E+00 | | 1.582E+01 | 2.527E+01 | 0.000E+00 | -0.312 |
| AG-110m | -1.245E+00 | | 1.685E+00 | 2.648E+00 | 0.000E+00 | -0.470 |
| SN-113 | 8.097E-01 | | 2.166E+00 | 3.675E+00 | 0.000E+00 | 0.220 |
| SB-124 | 1.462E+00 | | 2.847E+00 | 2.679E+00 | 0.000E+00 | 0.545 |
| SB-125 | -5.740E+00 | | 4.792E+00 | 7.647E+00 | 0.000E+00 | -0.751 |
| TE-129M | 1.139E+01 | | 1.940E+01 | 3.296E+01 | 0.000E+00 | 0.346 |
| I-131 | -1.108E+00 | | 2.006E+00 | 3.158E+00 | 0.000E+00 | -0.351 |
| BA-133 | 1.595E-01 | | 2.723E+00 | 3.784E+00 | 0.000E+00 | 0.042 |
| CS-134 | 8.266E-01 | | 2.204E+00 | 2.643E+00 | 0.000E+00 | 0.313 |
| CS-136 | -3.643E-01 | | 1.820E+00 | 3.015E+00 | 0.000E+00 | -0.121 |
| CS-137 | -1.095E-01 | | 1.888E+00 | 3.069E+00 | 0.000E+00 | -0.036 |
| CE-139 | -4.502E-01 | | 1.683E+00 | 2.781E+00 | 0.000E+00 | -0.162 |
| BA-140 | -3.568E+00 | | 6.453E+00 | 1.039E+01 | 0.000E+00 | -0.343 |
| LA-140 | 1.421E+00 | | 2.013E+00 | 3.512E+00 | 0.000E+00 | 0.404 |
| CE-141 | 4.990E+00 | | 3.151E+00 | 4.994E+00 | 0.000E+00 | 0.999 |
| CE-144 | 2.948E+00 | | 1.372E+01 | 2.182E+01 | 0.000E+00 | 0.135 |
| EU-152 | -8.539E-01 | | 7.230E+00 | 8.667E+00 | 0.000E+00 | -0.099 |
| EU-154 | 2.059E-01 | | 3.570E+00 | 6.001E+00 | 0.000E+00 | 0.034 |
| AC-228 | 3.001E-01 | | 7.531E+00 | 1.144E+01 | 0.000E+00 | 0.026 |
| TH-232 | 2.999E-01 | | 7.527E+00 | 1.143E+01 | 0.000E+00 | 0.026 |
| U-235 | -5.553E+00 | | 1.568E+01 | 2.176E+01 | 0.000E+00 | -0.255 |
| U-238 | -1.411E+01 | | 1.756E+02 | 2.888E+02 | 0.000E+00 | -0.049 |
| AM-241 | -6.262E+00 | | 2.293E+01 | 3.696E+01 | 0.000E+00 | -0.169 |

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A,14L29543-3      ,08/11/2006 09:12,08/09/2006 11:45,    3.201E+00,L29543-3 WG EX
B,14L29543-3      ,LIBD      ,08/07/2006 09:39,143L082304
C,K-40      ,YES,    2.862E+01,    4.076E+01,    2.419E+01,,    1.183
C,RA-226    ,YES,    5.842E+01,    7.815E+01,    6.571E+01,,    0.889
C,TH-228    ,YES,    8.330E-01,    5.629E+00,    5.303E+00,,    0.157
C,BE-7      ,NO ,   -3.138E+00,    1.415E+01,    2.328E+01,,   -0.135
C,NA-24     ,NO ,    2.692E+00,    8.963E+00,    1.279E+01,,    0.210
C,CR-51     ,NO ,   -2.084E-01,    1.446E+01,    2.337E+01,,   -0.009
C,MN-54     ,NO ,    9.821E-01,    1.643E+00,    2.828E+00,,    0.347
C,CO-57     ,NO ,    1.566E-01,    1.697E+00,    2.855E+00,,    0.055
C,CO-58     ,NO ,   -1.451E-01,    1.724E+00,    2.874E+00,,   -0.050
C,FE-59     ,NO ,    3.009E+00,    3.157E+00,    5.487E+00,,    0.548
C,CO-60     ,NO ,   -1.847E-02,    1.645E+00,    2.664E+00,,   -0.007
C,ZN-65     ,NO ,   -8.688E-01,    3.982E+00,    5.451E+00,,   -0.159
C,SE-75     ,NO ,    1.427E+00,    2.250E+00,    3.737E+00,,    0.382
C,SR-85     ,NO ,    4.995E+00,    2.166E+00,    3.809E+00,,    1.311
C,Y-88      ,NO ,   -1.171E+00,    1.815E+00,    2.797E+00,,   -0.419
C,NB-94     ,NO ,   -1.254E+00,    1.716E+00,    2.688E+00,,   -0.466
C,NB-95     ,NO ,    9.325E-01,    1.736E+00,    2.883E+00,,    0.323
C,ZR-95     ,NO ,    2.259E+00,    2.994E+00,    5.036E+00,,    0.449
C,MO-99     ,NO ,    1.408E+01,    1.862E+01,    3.132E+01,,    0.450
C,RU-103    ,NO ,   -5.078E-01,    1.769E+00,    2.897E+00,,   -0.175
C,RU-106    ,NO ,   -7.891E+00,    1.582E+01,    2.527E+01,,   -0.312
C,AG-110m   ,NO ,   -1.245E+00,    1.685E+00,    2.648E+00,,   -0.470
C,SN-113    ,NO ,    8.097E-01,    2.166E+00,    3.675E+00,,    0.220
C,SB-124    ,NO ,    1.462E+00,    2.847E+00,    2.679E+00,,    0.545
C,SB-125    ,NO ,   -5.740E+00,    4.792E+00,    7.647E+00,,   -0.751
C,TE-129M   ,NO ,    1.139E+01,    1.940E+01,    3.296E+01,,    0.346
C,I-131     ,NO ,   -1.108E+00,    2.006E+00,    3.158E+00,,   -0.351
C,BA-133    ,NO ,    1.595E-01,    2.723E+00,    3.784E+00,,    0.042
C,CS-134    ,NO ,    8.266E-01,    2.204E+00,    2.643E+00,,    0.313
C,CS-136    ,NO ,   -3.643E-01,    1.820E+00,    3.015E+00,,   -0.121
C,CS-137    ,NO ,   -1.095E-01,    1.888E+00,    3.069E+00,,   -0.036
C,CE-139    ,NO ,   -4.502E-01,    1.683E+00,    2.781E+00,,   -0.162
C,BA-140    ,NO ,   -3.568E+00,    6.453E+00,    1.039E+01,,   -0.343
C,LA-140    ,NO ,    1.421E+00,    2.013E+00,    3.512E+00,,    0.404
C,CE-141    ,NO ,    4.990E+00,    3.151E+00,    4.994E+00,,    0.999
C,CE-144    ,NO ,    2.948E+00,    1.372E+01,    2.182E+01,,    0.135
C,EU-152    ,NO ,   -8.539E-01,    7.230E+00,    8.667E+00,,   -0.099
C,EU-154    ,NO ,    2.059E-01,    3.570E+00,    6.001E+00,,    0.034
C,AC-228    ,NO ,    3.001E-01,    7.531E+00,    1.144E+01,,    0.026
C,TH-232    ,NO ,    2.999E-01,    7.527E+00,    1.143E+01,,    0.026
C,U-235     ,NO ,   -5.553E+00,    1.568E+01,    2.176E+01,,   -0.255
C,U-238     ,NO ,   -1.411E+01,    1.756E+02,    2.888E+02,,   -0.049
C,AM-241    ,NO ,   -6.262E+00,    2.293E+01,    3.696E+01,,   -0.169

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Sec. Review: Analyst: LIMS: ✓

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VAX/VMS Teledyne Brown Eng. Laboratory Gamma Report: 11-AUG-2006 12:06:27.21

TBE04 P-40312B HpGe ***** Aquisition Date/Time: 11-AUG-2006 10:16:13.73

LIMS No., Customer Name, Client ID: L29543-4 WG EX/DRES

| | | | |
|---------------|-----------------|---------------|-----------------------|
| Sample ID | : 04L29543-4 | Smple Date: | 9-AUG-2006 13:35:00.0 |
| Sample Type | : WG | Geometry | : 043L082004 |
| Quantity | : 3.11820E+00 L | BKGFILE | : 04BG072806MT |
| Start Channel | : 90 | Energy Tol | : 1.00000 |
| End Channel | : 4090 | Real Time | : 0 01:50:02.97 |
| MDA Constant | : 0.00 | Live time | : 0 01:50:01.72 |
| | | Pk Srch Sens: | 5.00000 |
| | | Library Used: | LIBD |

| Pk | It | Energy | Area | Bkgnd | FWHM | Channel | %Eff | Cts/Sec | %Err | Fit |
|----|----|----------|------|-------|------|---------|----------|----------|-------|----------|
| 1 | 1 | 92.49* | 20 | 146 | 1.38 | 185.98 | 1.53E+00 | 3.03E-03 | 116.0 | 7.48E-01 |
| 2 | 1 | 139.55* | 45 | 136 | 1.39 | 280.19 | 2.04E+00 | 6.82E-03 | 46.4 | 1.65E+00 |
| 3 | 1 | 198.32* | 45 | 154 | 1.31 | 397.84 | 1.87E+00 | 6.86E-03 | 54.1 | 1.37E+00 |
| 4 | 1 | 239.61 | 49 | 184 | 1.14 | 480.47 | 1.68E+00 | 7.37E-03 | 60.2 | 7.57E+00 |
| 5 | 1 | 351.46* | 139 | 107 | 1.49 | 704.30 | 1.28E+00 | 2.10E-02 | 18.6 | 2.76E+00 |
| 6 | 1 | 582.59* | 26 | 15 | 3.01 | 1166.71 | 8.78E-01 | 3.89E-03 | 38.7 | 1.64E+00 |
| 7 | 1 | 608.88* | 151 | 45 | 1.65 | 1219.30 | 8.49E-01 | 2.29E-02 | 13.1 | 1.37E+00 |
| 8 | 1 | 1120.12* | 43 | 14 | 2.65 | 2241.38 | 5.27E-01 | 6.59E-03 | 24.5 | 1.63E+00 |

Flag: "*" = Peak area was modified by background subtraction

Nuclide Line Activity Report

Nuclide Type: natural

| Nuclide | Energy | Area | %Abn | %Eff | Uncorrected pCi/L | Decay Corr pCi/L | 2-Sigma %Error |
|---------|--------|-------|--------|-----------|----------------------|---------------------|-------------------|
| TH-228 | 238.63 | 49 | 44.60* | 1.675E+00 | 8.554E+00 | 8.571E+00 | 120.31 |
| | 240.98 | ----- | 3.95 | 1.669E+00 | ----- | Line Not Found | ----- |

Flag: "*" = Keyline

Summary of Nuclide Activity

Page : 2

Sample ID : 04L29543-4

Acquisition date : 11-AUG-2006 10:16:13

| | | |
|---|---|--------|
| Total number of lines in spectrum | 8 | |
| Number of unidentified lines | 6 | |
| Number of lines tentatively identified by NID | 2 | 25.00% |

Nuclide Type : natural

| Nuclide | Hlife | Decay | Uncorrected pCi/L | Decay Corr pCi/L | Decay Corr 2-Sigma Error | 2-Sigma %Error | Flags |
|------------------|-------|-------|----------------------|---------------------|-----------------------------|-------------------|-------|
| TH-228 | 1.91Y | 1.00 | 8.554E+00 | 8.571E+00 | 10.31E+00 | 120.31 | |
| Total Activity : | | | 8.554E+00 | 8.571E+00 | | | |

| | | |
|------------------------|-----------|-----------|
| Grand Total Activity : | 8.554E+00 | 8.571E+00 |
|------------------------|-----------|-----------|

Flags: "K" = Keyline not found
 "E" = Manually edited

"M" = Manually accepted
 "A" = Nuclide specific abn. limit

Unidentified Energy Lines

Page : 13

Sample ID : 04L29543-4

Acquisition date : 11-AUG-2006 10:16:13

| It | Energy | Area | Bkgnd | FWHM | Channel | Left | Pw | Cts/Sec | %Err | %Eff | Flags |
|----|---------|------|-------|------|---------|------|----|----------|------|----------|-------|
| 1 | 92.49 | 20 | 146 | 1.38 | 185.98 | 183 | 8 | 3.03E-03 | **** | 1.53E+00 | |
| 1 | 139.55 | 45 | 136 | 1.39 | 280.19 | 277 | 7 | 6.82E-03 | 92.8 | 2.04E+00 | |
| 1 | 198.32 | 45 | 154 | 1.31 | 397.84 | 394 | 10 | 6.86E-03 | **** | 1.87E+00 | |
| 1 | 351.46 | 139 | 107 | 1.49 | 704.30 | 699 | 14 | 2.10E-02 | 37.1 | 1.28E+00 | |
| 1 | 582.59 | 26 | 15 | 3.01 | 1166.71 | 1161 | 10 | 3.89E-03 | 77.4 | 8.78E-01 | T |
| 1 | 608.88 | 151 | 45 | 1.65 | 1219.30 | 1213 | 14 | 2.29E-02 | 26.2 | 8.49E-01 | |
| 1 | 1120.12 | 43 | 14 | 2.65 | 2241.38 | 2234 | 14 | 6.59E-03 | 49.0 | 5.27E-01 | |

Flags: "T" = Tentatively associated

Summary of Nuclide Activity

| | | |
|---|---|--------|
| Total number of lines in spectrum | 8 | |
| Number of unidentified lines | 6 | |
| Number of lines tentatively identified by NID | 2 | 25.00% |

Nuclide Type : natural

| Nuclide | Hlife | Decay | Wtd Mean Uncorrected pCi/L | Wtd Mean Decay Corr pCi/L | Decay Corr 2-Sigma Error | 2-Sigma %Error | Flags |
|------------------|-------|-------|----------------------------------|---------------------------------|-----------------------------|-------------------|-------|
| TH-228 | 1.91Y | 1.00 | 8.554E+00 | 8.571E+00 | 10.31E+00 | 120.31 | |
| Total Activity : | | | 8.554E+00 | 8.571E+00 | | | |

Grand Total Activity : 8.554E+00 8.571E+00

Flags: "K" = Keyline not found
 "E" = Manually edited

"M" = Manually accepted
 "A" = Nuclide specific abn. limit

Interference Report

No interference correction performed

Combined Activity-MDA Report

---- Identified Nuclides ----

| Nuclide | Activity (pCi/L) | Act error | MDA (pCi/L) | MDA error | Act/MDA |
|---------|---------------------|-----------|----------------|-----------|---------|
| TH-228 | 8.571E+00 | 1.031E+01 | 7.677E+00 | 0.000E+00 | 1.116 |

---- Non-Identified Nuclides ----

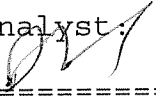

| Nuclide | Key-Line Activity (pCi/L) | K.L. Ided | Act error | MDA (pCi/L) | MDA error | Act/MDA |
|---------|---------------------------------|--------------|-----------|----------------|-----------|---------|
| BE-7 | -1.201E+01 | | 2.325E+01 | 3.536E+01 | 0.000E+00 | -0.340 |
| NA-24 | 6.550E+00 | | 2.511E+01 | 4.357E+01 | 0.000E+00 | 0.150 |
| K-40 | -3.386E+01 | | 4.086E+01 | 7.752E+01 | 0.000E+00 | -0.437 |
| CR-51 | 1.477E+01 | | 2.508E+01 | 4.355E+01 | 0.000E+00 | 0.339 |

| | | | | | |
|---------|------------|-----------|-----------|-----------|--------|
| MN-54 | 4.101E-01 | 3.159E+00 | 5.285E+00 | 0.000E+00 | 0.078 |
| CO-57 | -3.918E-01 | 2.525E+00 | 4.071E+00 | 0.000E+00 | -0.096 |
| CO-58 | -9.943E-01 | 2.788E+00 | 4.365E+00 | 0.000E+00 | -0.228 |
| FE-59 | 2.316E+00 | 5.076E+00 | 8.861E+00 | 0.000E+00 | 0.261 |
| CO-60 | -8.975E-01 | 3.523E+00 | 6.229E+00 | 0.000E+00 | -0.144 |
| ZN-65 | 6.882E+00 | 6.564E+00 | 1.140E+01 | 0.000E+00 | 0.604 |
| SE-75 | -1.610E+00 | 3.656E+00 | 5.950E+00 | 0.000E+00 | -0.271 |
| SR-85 | -1.530E+01 | 4.263E+00 | 4.816E+00 | 0.000E+00 | -3.177 |
| Y-88 | 4.419E-01 | 3.515E+00 | 5.836E+00 | 0.000E+00 | 0.076 |
| NB-94 | 3.548E-01 | 2.650E+00 | 4.492E+00 | 0.000E+00 | 0.079 |
| NB-95 | 2.204E+00 | 3.217E+00 | 5.731E+00 | 0.000E+00 | 0.385 |
| ZR-95 | 1.591E+00 | 4.871E+00 | 8.425E+00 | 0.000E+00 | 0.189 |
| MO-99 | 8.361E+00 | 3.616E+01 | 6.172E+01 | 0.000E+00 | 0.135 |
| RU-103 | 2.815E+00 | 3.121E+00 | 5.502E+00 | 0.000E+00 | 0.512 |
| RU-106 | -3.151E+01 | 2.679E+01 | 3.882E+01 | 0.000E+00 | -0.812 |
| AG-110m | 1.217E+00 | 2.712E+00 | 4.780E+00 | 0.000E+00 | 0.255 |
| SN-113 | 9.058E-01 | 3.760E+00 | 6.309E+00 | 0.000E+00 | 0.144 |
| SB-124 | -1.642E+00 | 3.192E+00 | 4.308E+00 | 0.000E+00 | -0.381 |
| SB-125 | 3.843E+00 | 6.873E+00 | 1.195E+01 | 0.000E+00 | 0.321 |
| TE-129M | 1.659E+01 | 3.268E+01 | 5.593E+01 | 0.000E+00 | 0.297 |
| I-131 | 2.023E+00 | 3.192E+00 | 5.571E+00 | 0.000E+00 | 0.363 |
| BA-133 | -5.404E+00 | 4.607E+00 | 5.685E+00 | 0.000E+00 | -0.950 |
| CS-134 | -2.111E+00 | 3.098E+00 | 4.045E+00 | 0.000E+00 | -0.522 |
| CS-136 | -1.455E+00 | 2.867E+00 | 4.358E+00 | 0.000E+00 | -0.334 |
| CS-137 | 1.274E+00 | 3.006E+00 | 5.282E+00 | 0.000E+00 | 0.241 |
| CE-139 | -5.452E-01 | 2.717E+00 | 4.299E+00 | 0.000E+00 | -0.127 |
| BA-140 | -3.706E-01 | 9.389E+00 | 1.500E+01 | 0.000E+00 | -0.025 |
| LA-140 | 5.685E-01 | 3.873E+00 | 6.519E+00 | 0.000E+00 | 0.087 |
| CE-141 | 3.523E-01 | 4.583E+00 | 7.437E+00 | 0.000E+00 | 0.047 |
| CE-144 | -8.204E+00 | 2.074E+01 | 3.280E+01 | 0.000E+00 | -0.250 |
| EU-152 | -2.209E+00 | 8.701E+00 | 1.409E+01 | 0.000E+00 | -0.157 |
| EU-154 | -4.294E+00 | 5.458E+00 | 8.437E+00 | 0.000E+00 | -0.509 |
| RA-226 | 7.059E+00 | 7.156E+01 | 1.189E+02 | 0.000E+00 | 0.059 |
| AC-228 | 2.560E+00 | 1.071E+01 | 1.953E+01 | 0.000E+00 | 0.131 |
| TH-232 | 2.559E+00 | 1.070E+01 | 1.952E+01 | 0.000E+00 | 0.131 |
| U-235 | 1.552E+01 | 2.285E+01 | 3.478E+01 | 0.000E+00 | 0.446 |
| U-238 | 9.661E+00 | 3.423E+02 | 5.580E+02 | 0.000E+00 | 0.017 |
| AM-241 | 5.121E+00 | 2.652E+01 | 4.499E+01 | 0.000E+00 | 0.114 |

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A,04L29543-4      ,08/11/2006 12:06,08/09/2006 13:35,    3.118E+00,L29543-4 WG EX
B,04L29543-4      ,LIBD      ,08/11/2006 09:46,043L082004
C,TH-228  ,YES,    8.571E+00,    1.031E+01,    7.677E+00,,    1.116
C,BE-7    ,NO ,    -1.201E+01,    2.325E+01,    3.536E+01,,    -0.340
C,NA-24   ,NO ,    6.550E+00,    2.511E+01,    4.357E+01,,    0.150
C,K-40    ,NO ,    -3.386E+01,    4.086E+01,    7.752E+01,,    -0.437
C,CR-51   ,NO ,    1.477E+01,    2.508E+01,    4.355E+01,,    0.339
C,MN-54   ,NO ,    4.101E-01,    3.159E+00,    5.285E+00,,    0.078
C,CO-57   ,NO ,    -3.918E-01,    2.525E+00,    4.071E+00,,    -0.096
C,CO-58   ,NO ,    -9.943E-01,    2.788E+00,    4.365E+00,,    -0.228
C,FE-59   ,NO ,    2.316E+00,    5.076E+00,    8.861E+00,,    0.261
C,CO-60   ,NO ,    -8.975E-01,    3.523E+00,    6.229E+00,,    -0.144
C,ZN-65   ,NO ,    6.882E+00,    6.564E+00,    1.140E+01,,    0.604
C,SE-75   ,NO ,    -1.610E+00,    3.656E+00,    5.950E+00,,    -0.271
C,SR-85   ,NO ,    -1.530E+01,    4.263E+00,    4.816E+00,,    -3.177
C,Y-88    ,NO ,    4.419E-01,    3.515E+00,    5.836E+00,,    0.076
C,NB-94   ,NO ,    3.548E-01,    2.650E+00,    4.492E+00,,    0.079
C,NB-95   ,NO ,    2.204E+00,    3.217E+00,    5.731E+00,,    0.385
C,ZR-95   ,NO ,    1.591E+00,    4.871E+00,    8.425E+00,,    0.189
C,MO-99   ,NO ,    8.361E+00,    3.616E+01,    6.172E+01,,    0.135
C,RU-103  ,NO ,    2.815E+00,    3.121E+00,    5.502E+00,,    0.512
C,RU-106  ,NO ,    -3.151E+01,    2.679E+01,    3.882E+01,,    -0.812
C,AG-110m ,NO ,    1.217E+00,    2.712E+00,    4.780E+00,,    0.255
C,SN-113  ,NO ,    9.058E-01,    3.760E+00,    6.309E+00,,    0.144
C,SB-124  ,NO ,    -1.642E+00,    3.192E+00,    4.308E+00,,    -0.381
C,SB-125  ,NO ,    3.843E+00,    6.873E+00,    1.195E+01,,    0.321
C,TE-129M ,NO ,    1.659E+01,    3.268E+01,    5.593E+01,,    0.297
C,I-131   ,NO ,    2.023E+00,    3.192E+00,    5.571E+00,,    0.363
C,BA-133  ,NO ,    -5.404E+00,    4.607E+00,    5.685E+00,,    -0.950
C,CS-134  ,NO ,    -2.111E+00,    3.098E+00,    4.045E+00,,    -0.522
C,CS-136  ,NO ,    -1.455E+00,    2.867E+00,    4.358E+00,,    -0.334
C,CS-137  ,NO ,    1.274E+00,    3.006E+00,    5.282E+00,,    0.241
C,CE-139  ,NO ,    -5.452E-01,    2.717E+00,    4.299E+00,,    -0.127
C,BA-140  ,NO ,    -3.706E-01,    9.389E+00,    1.500E+01,,    -0.025
C,LA-140  ,NO ,    5.685E-01,    3.873E+00,    6.519E+00,,    0.087
C,CE-141  ,NO ,    3.523E-01,    4.583E+00,    7.437E+00,,    0.047
C,CE-144  ,NO ,    -8.204E+00,    2.074E+01,    3.280E+01,,    -0.250
C,EU-152  ,NO ,    -2.209E+00,    8.701E+00,    1.409E+01,,    -0.157
C,EU-154  ,NO ,    -4.294E+00,    5.458E+00,    8.437E+00,,    -0.509
C,RA-226  ,NO ,    7.059E+00,    7.156E+01,    1.189E+02,,    0.059
C,AC-228  ,NO ,    2.560E+00,    1.071E+01,    1.953E+01,,    0.131
C,TH-232  ,NO ,    2.559E+00,    1.070E+01,    1.952E+01,,    0.131
C,U-235   ,NO ,    1.552E+01,    2.285E+01,    3.478E+01,,    0.446
C,U-238   ,NO ,    9.661E+00,    3.423E+02,    5.580E+02,,    0.017
C,AM-241  ,NO ,    5.121E+00,    2.652E+01,    4.499E+01,,    0.114

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Sec. Review: Analyst:  LIMS: 

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VAX/VMS Teledyne Brown Eng. Laboratory Gamma Report: 11-AUG-2006 11:40:44.26
 TBE07 P-10768B HpGe ***** Aquisition Date/Time: 11-AUG-2006 10:16:14.61

LIMS No., Customer Name, Client ID: L29543-5 WG EX/DRES

| | | | |
|---------------|-----------------|---------------|-----------------------|
| Sample ID | : 07L29543-5 | Smple Date: | 9-AUG-2006 13:50:00.0 |
| Sample Type | : WG | Geometry | : 073L082504 |
| Quantity | : 3.14630E+00 L | BKGFILE | : 07BG072806MT |
| Start Channel | : 40 | Energy Tol | : 1.00000 |
| End Channel | : 4090 | Real Time | : 0 01:24:22.31 |
| MDA Constant | : 0.00 | Pk Srch Sens: | 5.00000 |
| | | Live time | : 0 01:24:21.23 |
| | | Library Used: | LIBD |

| Pk | It | Energy | Area | Bkgnd | FWHM | Channel | %Eff | Cts/Sec | %Err | Fit |
|----|----|----------|------|-------|------|---------|----------|----------|------|----------|
| 1 | 1 | 66.33* | 36 | 131 | 1.26 | 133.38 | 8.06E-01 | 7.03E-03 | 57.1 | 3.66E+00 |
| 2 | 1 | 294.83* | 74 | 97 | 1.25 | 591.41 | 1.81E+00 | 1.46E-02 | 28.0 | 3.33E+00 |
| 3 | 1 | 351.73* | 154 | 63 | 1.68 | 705.42 | 1.61E+00 | 3.05E-02 | 13.7 | 1.94E+00 |
| 4 | 1 | 608.89* | 106 | 45 | 1.50 | 1220.47 | 1.09E+00 | 2.10E-02 | 17.0 | 1.50E+00 |
| 5 | 1 | 1765.01* | 32 | 3 | 2.81 | 3531.45 | 5.12E-01 | 6.30E-03 | 26.7 | 1.65E+00 |

Flag: "*" = Peak area was modified by background subtraction

Nuclide Line Activity Report

Flag: "*" = Keyline

Summary of Nuclide Activity

Page : 2

Sample ID : 07L29543-5

Acquisition date : 11-AUG-2006 10:16:14

Total number of lines in spectrum

5

Number of unidentified lines

5

Number of lines tentatively identified by NID

0

0.00%

**** There are no nuclides meeting summary criteria ****

Flags: "K" = Keyline not found

"M" = Manually accepted

"E" = Manually edited

"A" = Nuclide specific abn. limit

Unidentified Energy Lines
Sample ID : 07L29543-5

Page : 3
Acquisition date : 11-AUG-2006 10:16:14

| It | Energy | Area | Bkgnd | FWHM | Channel | Left | Pw | Cts/Sec | %Err | %Eff | Flags |
|----|---------|------|-------|------|---------|------|----|----------|------|----------|-------|
| 1 | 66.33 | 36 | 131 | 1.26 | 133.38 | 131 | 7 | 7.03E-03 | **** | 8.06E-01 | |
| 1 | 294.83 | 74 | 97 | 1.25 | 591.41 | 586 | 10 | 1.46E-02 | 56.0 | 1.81E+00 | |
| 1 | 351.73 | 154 | 63 | 1.68 | 705.42 | 700 | 12 | 3.05E-02 | 27.5 | 1.61E+00 | |
| 1 | 608.89 | 106 | 45 | 1.50 | 1220.47 | 1214 | 12 | 2.10E-02 | 33.9 | 1.09E+00 | |
| 1 | 1765.01 | 32 | 3 | 2.81 | 3531.45 | 3522 | 16 | 6.30E-03 | 53.3 | 5.12E-01 | |

Flags: "T" = Tentatively associated

Summary of Nuclide Activity

Total number of lines in spectrum 5
 Number of unidentified lines 5
 Number of lines tentatively identified by NID 0 0.00%
 **** There are no nuclides meeting summary criteria ****

Flags: "K" = Keyline not found "M" = Manually accepted
 "E" = Manually edited "A" = Nuclide specific abn. limit

Interference Report

No interference correction performed

Combined Activity-MDA Report

---- Non-Identified Nuclides ----

| Nuclide | Key-Line Activity (pCi/L) | K.L. Ided | Act error | MDA (pCi/L) | MDA error | Act/MDA |
|---------|---------------------------------|--------------|-----------|----------------|-----------|---------|
| BE-7 | -1.224E+00 | | 2.335E+01 | 3.760E+01 | 0.000E+00 | -0.033 |
| NA-24 | -1.019E+00 | | 2.615E+01 | 4.340E+01 | 0.000E+00 | -0.023 |
| K-40 | -5.670E+00 | | 4.107E+01 | 8.573E+01 | 0.000E+00 | -0.066 |
| CR-51 | 4.826E+00 | | 2.425E+01 | 4.087E+01 | 0.000E+00 | 0.118 |
| MN-54 | -1.880E+00 | | 2.507E+00 | 3.639E+00 | 0.000E+00 | -0.517 |
| CO-57 | 1.871E+00 | | 2.745E+00 | 4.631E+00 | 0.000E+00 | 0.404 |
| CO-58 | 2.220E+00 | | 2.868E+00 | 5.218E+00 | 0.000E+00 | 0.426 |
| FE-59 | 3.232E-01 | | 5.168E+00 | 8.474E+00 | 0.000E+00 | 0.038 |
| CO-60 | -2.234E-01 | | 2.979E+00 | 4.921E+00 | 0.000E+00 | -0.045 |
| ZN-65 | -9.056E+00 | | 6.943E+00 | 8.861E+00 | 0.000E+00 | -1.022 |
| SE-75 | 7.311E-01 | | 3.451E+00 | 5.873E+00 | 0.000E+00 | 0.124 |
| SR-85 | -1.247E+01 | | 4.076E+00 | 4.834E+00 | 0.000E+00 | -2.579 |
| Y-88 | -2.080E+00 | | 3.023E+00 | 4.057E+00 | 0.000E+00 | -0.513 |
| NB-94 | -5.331E-01 | | 2.600E+00 | 4.237E+00 | 0.000E+00 | -0.126 |
| NB-95 | 2.573E+00 | | 3.056E+00 | 5.563E+00 | 0.000E+00 | 0.463 |
| ZR-95 | -1.626E+00 | | 4.439E+00 | 6.988E+00 | 0.000E+00 | -0.233 |
| MO-99 | -6.177E+00 | | 3.263E+01 | 5.304E+01 | 0.000E+00 | -0.116 |
| RU-103 | -2.437E+00 | | 2.797E+00 | 4.022E+00 | 0.000E+00 | -0.606 |
| RU-106 | 2.182E+01 | | 2.722E+01 | 4.968E+01 | 0.000E+00 | 0.439 |
| AG-110m | -2.680E+00 | | 2.431E+00 | 3.436E+00 | 0.000E+00 | -0.780 |
| SN-113 | -1.642E-01 | | 3.526E+00 | 5.753E+00 | 0.000E+00 | -0.029 |
| SB-124 | -1.336E+00 | | 3.270E+00 | 4.206E+00 | 0.000E+00 | -0.318 |
| SB-125 | 7.332E+00 | | 7.717E+00 | 1.385E+01 | 0.000E+00 | 0.529 |

| | | | | | |
|---------|------------|-----------|-----------|-----------|--------|
| TE-129M | -3.197E+00 | 3.395E+01 | 5.458E+01 | 0.000E+00 | -0.059 |
| I-131 | 5.857E-01 | 3.360E+00 | 5.620E+00 | 0.000E+00 | 0.104 |
| BA-133 | -4.246E+00 | 4.317E+00 | 5.386E+00 | 0.000E+00 | -0.788 |
| CS-134 | -9.676E-01 | 3.336E+00 | 4.403E+00 | 0.000E+00 | -0.220 |
| CS-136 | 1.215E+00 | 2.644E+00 | 4.684E+00 | 0.000E+00 | 0.259 |
| CS-137 | 1.337E+00 | 2.828E+00 | 5.023E+00 | 0.000E+00 | 0.266 |
| CE-139 | -2.155E-02 | 2.964E+00 | 4.714E+00 | 0.000E+00 | -0.005 |
| BA-140 | 6.151E-01 | 1.103E+01 | 1.787E+01 | 0.000E+00 | 0.034 |
| LA-140 | -1.078E+00 | 3.245E+00 | 4.955E+00 | 0.000E+00 | -0.217 |
| CE-141 | -2.499E+00 | 4.899E+00 | 7.557E+00 | 0.000E+00 | -0.331 |
| CE-144 | 1.659E+01 | 2.125E+01 | 3.594E+01 | 0.000E+00 | 0.462 |
| EU-152 | -2.697E+00 | 8.799E+00 | 1.413E+01 | 0.000E+00 | -0.191 |
| EU-154 | 1.129E+00 | 5.854E+00 | 9.559E+00 | 0.000E+00 | 0.118 |
| RA-226 | -5.781E+01 | 7.897E+01 | 1.269E+02 | 0.000E+00 | -0.456 |
| AC-228 | 8.295E+00 | 1.247E+01 | 2.389E+01 | 0.000E+00 | 0.347 |
| TH-228 | -3.627E+00 | 5.745E+00 | 9.829E+00 | 0.000E+00 | -0.369 |
| TH-232 | 8.290E+00 | 1.246E+01 | 2.387E+01 | 0.000E+00 | 0.347 |
| U-235 | -1.196E+01 | 2.222E+01 | 3.452E+01 | 0.000E+00 | -0.346 |
| U-238 | 1.923E+01 | 2.872E+02 | 4.787E+02 | 0.000E+00 | 0.040 |
| AM-241 | 1.857E+01 | 2.559E+01 | 4.430E+01 | 0.000E+00 | 0.419 |


```

A,07L29543-5      ,08/11/2006 11:40,08/09/2006 13:50,    3.146E+00,L29543-5 WG EX
B,07L29543-5      ,LIBD      ,08/11/2006 09:47,073L082504
C,BE-7      ,NO ,    -1.224E+00,    2.335E+01,    3.760E+01,,    -0.033
C,NA-24      ,NO ,    -1.019E+00,    2.615E+01,    4.340E+01,,    -0.023
C,K-40      ,NO ,    -5.670E+00,    4.107E+01,    8.573E+01,,    -0.066
C,CR-51      ,NO ,    4.826E+00,    2.425E+01,    4.087E+01,,    0.118
C,MN-54      ,NO ,    -1.880E+00,    2.507E+00,    3.639E+00,,    -0.517
C,CO-57      ,NO ,    1.871E+00,    2.745E+00,    4.631E+00,,    0.404
C,CO-58      ,NO ,    2.220E+00,    2.868E+00,    5.218E+00,,    0.426
C,FE-59      ,NO ,    3.232E-01,    5.168E+00,    8.474E+00,,    0.038
C,CO-60      ,NO ,    -2.234E-01,    2.979E+00,    4.921E+00,,    -0.045
C,ZN-65      ,NO ,    -9.056E+00,    6.943E+00,    8.861E+00,,    -1.022
C,SE-75      ,NO ,    7.311E-01,    3.451E+00,    5.873E+00,,    0.124
C,SR-85      ,NO ,    -1.247E+01,    4.076E+00,    4.834E+00,,    -2.579
C,Y-88      ,NO ,    -2.080E+00,    3.023E+00,    4.057E+00,,    -0.513
C,NB-94      ,NO ,    -5.331E-01,    2.600E+00,    4.237E+00,,    -0.126
C,NB-95      ,NO ,    2.573E+00,    3.056E+00,    5.563E+00,,    0.463
C,ZR-95      ,NO ,    -1.626E+00,    4.439E+00,    6.988E+00,,    -0.233
C,MO-99      ,NO ,    -6.177E+00,    3.263E+01,    5.304E+01,,    -0.116
C,RU-103     ,NO ,    -2.437E+00,    2.797E+00,    4.022E+00,,    -0.606
C,RU-106     ,NO ,    2.182E+01,    2.722E+01,    4.968E+01,,    0.439
C,AG-110m    ,NO ,    -2.680E+00,    2.431E+00,    3.436E+00,,    -0.780
C,SN-113     ,NO ,    -1.642E-01,    3.526E+00,    5.753E+00,,    -0.029
C,SB-124     ,NO ,    -1.336E+00,    3.270E+00,    4.206E+00,,    -0.318
C,SB-125     ,NO ,    7.332E+00,    7.717E+00,    1.385E+01,,    0.529
C,TE-129M    ,NO ,    -3.197E+00,    3.395E+01,    5.458E+01,,    -0.059
C,I-131      ,NO ,    5.857E-01,    3.360E+00,    5.620E+00,,    0.104
C,BA-133     ,NO ,    -4.246E+00,    4.317E+00,    5.386E+00,,    -0.788
C,CS-134     ,NO ,    -9.676E-01,    3.336E+00,    4.403E+00,,    -0.220
C,CS-136     ,NO ,    1.215E+00,    2.644E+00,    4.684E+00,,    0.259
C,CS-137     ,NO ,    1.337E+00,    2.828E+00,    5.023E+00,,    0.266
C,CE-139     ,NO ,    -2.155E-02,    2.964E+00,    4.714E+00,,    -0.005
C,BA-140     ,NO ,    6.151E-01,    1.103E+01,    1.787E+01,,    0.034
C,LA-140     ,NO ,    -1.078E+00,    3.245E+00,    4.955E+00,,    -0.217
C,CE-141     ,NO ,    -2.499E+00,    4.899E+00,    7.557E+00,,    -0.331
C,CE-144     ,NO ,    1.659E+01,    2.125E+01,    3.594E+01,,    0.462
C,EU-152     ,NO ,    -2.697E+00,    8.799E+00,    1.413E+01,,    -0.191
C,EU-154     ,NO ,    1.129E+00,    5.854E+00,    9.559E+00,,    0.118
C,RA-226     ,NO ,    -5.781E+01,    7.897E+01,    1.269E+02,,    -0.456
C,AC-228     ,NO ,    8.295E+00,    1.247E+01,    2.389E+01,,    0.347
C,TH-228     ,NO ,    -3.627E+00,    5.745E+00,    9.829E+00,,    -0.369
C,TH-232     ,NO ,    8.290E+00,    1.246E+01,    2.387E+01,,    0.347
C,U-235      ,NO ,    -1.196E+01,    2.222E+01,    3.452E+01,,    -0.346
C,U-238      ,NO ,    1.923E+01,    2.872E+02,    4.787E+02,,    0.040
C,AM-241     ,NO ,    1.857E+01,    2.559E+01,    4.430E+01,,    0.419

```



2508 Quality Lane
Knoxville, TN 37931
865-690-6819 (Phone)

Work Order #: L29557

Exelon

August 16, 2006



TELEDYNE
BROWN ENGINEERING, INC.
 A Teledyne Technologies Company
 2508 Quality Lane
 Knoxville, TN 37931-3133

Kathy Shaw
 Conestoga-Rovers & Associates
 45 Farmington Valley Road
 Plainville CT 06062

Case Narrative - L29557
EX001-3ESPDRES-06

08/16/2006 10:29

Sample Receipt

The following samples were received on August 11, 2006 in good condition, unless otherwise noted.

Cross Reference Table

| Client ID | Laboratory ID | Station ID(if applicable) |
|--------------------------------|---------------|---------------------------|
| WG-DN-MW-DN-112S-081006-GL-013 | L29557-1 | |
| WG-DN-MW-DN-112I-081006-GL-014 | L29557-2 | |
| WG-DN-MW-DN-117I-081006-GL-015 | L29557-3 | |
| WG-DN-MW-DN-118S-081006-GL-016 | L29557-4 | |

Analytical Method Cross Reference Table

| Radiological Parameter | TBE Knoxville Method | Reference Method |
|------------------------|----------------------|------------------|
| Gamma Spectrometry | TBE-2007 | EPA 901.1 |
| H-3 (DIST) | TBE-2010 | |
| TOTAL SR | TBE-2018 | EPA 905.0 |



Case Narrative - L29557
EX001-3ESPDRES-06

08/16/2006 10:29

Gamma Spectroscopy

Quality Control

Quality control samples were analyzed as WG4311.

Duplicate Sample

Duplicates were analyzed for the following samples. All duplicate results were within acceptance limits, unless otherwise noted.

| <u>Client ID</u> | <u>Laboratory ID</u> | <u>QC Sample #</u> |
|--------------------------------|----------------------|--------------------|
| WG-DN-MW-DN-112S-081006-GL-013 | L29557-1 | WG4311-1 |

H-3 (DIST)

Quality Control

Quality control samples were analyzed as WG4307.

Method Blank

All blanks were within acceptance limits, unless otherwise noted.

Laboratory Control Sample

All laboratory control samples were within acceptance limits, unless otherwise noted.

Duplicate Sample

Duplicates were analyzed for the following samples. All duplicate results were within acceptance limits, unless otherwise noted.

| <u>Client ID</u> | <u>Laboratory ID</u> | <u>QC Sample #</u> |
|--------------------------------|----------------------|--------------------|
| WG-DN-MW-DN-113S-080906-GL-008 | L29543-1 | WG4307-3 |



Case Narrative - L29557
EX001-3ESPDRES-06

08/16/2006 10:29

TOTAL SR

Quality Control

Quality control samples were analyzed as WG4323.

Method Blank

All blanks were within acceptance limits, unless otherwise noted.

Laboratory Control Sample

All laboratory control samples were within acceptance limits, unless otherwise noted.

Duplicate Sample

Duplicates were analyzed for the following samples. All duplicate results were within acceptance limits, unless otherwise noted.

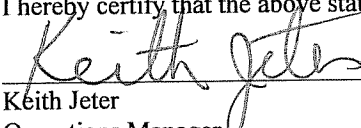
| <u>Client ID</u> | <u>Laboratory ID</u> | <u>QC Sample #</u> |
|--------------------------------|----------------------|--------------------|
| WG-DN-MW-DN-119S-081106-GL-017 | L29576-1 | WG4323-3 |

Certification

This is to certify that Teledyne Brown Engineering - Environmental Services, located at 2508 Quality Lane, Knoxville, Tennessee, 37931, has analyzed, tested and documented samples as specified in the applicable purchase order.

This also certifies that requirements of applicable codes, standards and specifications have been fully met and that any quality assurance documentation which verified conformance to the purchase order is on file and may be examined upon request.

I hereby certify that the above statements are true and correct.



Keith Jeter
Operations Manager

Sample Receipt Summary

08/11/06 10:00

Teledyne Brown Engineering
Sample Receipt Verification/Variance Report

SR #: SR09882

Client: Exelon

Project #: EX001-3ESPDRES-06

LIMS #: L29557

Initiated By: PMARSHALL

Init Date: 08/11/06 Receive Date: 08/11/06

Notification of Variance

Person Notified:

Contacted By:

Notify Date:

Notify Method:

Notify Comment:

Client Response

Person Responding:

Response Date:

Response Method:

Response Comment

| Criteria | Yes | No | NA | Comment |
|--|-----|----|----|--|
| 1 Shipping container custody seals present and intact. | | | NA | |
| 2 Sample container custody seals present and intact. | | | NA | |
| 3 Sample containers received in good condition | | Y | | |
| 4 Chain of custody received with samples | | Y | | |
| 5 All samples listed on chain of custody received | | Y | | |
| 6 Sample container labels present and legible. | | Y | | |
| 7 Information on container labels correspond with chain of custody | | Y | | |
| 8 Sample(s) properly preserved and in appropriate container(s) | | N | | Approx. 5mL of nitric acid was required to bring pH to 2 or below. |
| 9 Other (Describe) WG-DN-MW-DN-117I-081006-GL-015 | | N | | Only approx. 2 L of sample received for Gamma/Sr-90 analysis. No signs of leakage during shipment. |

8/11/06

TELEDYNE BROWN ENGINEERING
2508 Quality Lane
Knoxville, TN 37931-3133

ACKNOWLEDGEMENT

This is not an invoice

August 11, 2006

Kathy Shaw
Conestoga-Rovers & Associates
45 Farmington Valley Road
Plainville, CT 06062

The following sample(s) were received at Teledyne Brown Engineering Knoxville laboratory on August 11, 2006. The sample(s) have been scheduled for the analyses listed below and the report is scheduled for completion by August 16, 2006. Please review the following login information and pricing. Contact me if anything is incorrect or you have questions about the status of your sample(s).

Thank you for choosing Teledyne Brown Engineering for your analytical needs.

Sincerely,
Rebecca Charles
Project Manager
(865) 934-0379

Project ID: EX001-3ESPDRES-06
P.O. #: 00411203
Release #:
Contract#: 00411203
Kathy Shaw, FAX#: 860-747-1900, larry.walton@exeloncorp.com

| Client ID/ Station | Laboratory ID Analysis | Vol/Units Price | Start Collect Date/Time | End Collect Date/Time |
|---------------------------------------|---------------------------|--------------------|----------------------------|--------------------------|
| WG-DN-MW-DN-112S-081006-GL-0 L29557-1 | | | 08/10/06:1105 | |
| WG | GELI | 135.00 | | |
| WG | H-3 (DIST) | 135.00 | | |
| WG | SR-90 (FAST) | 175.00 | | |
| WG-DN-MW-DN-112I-081006-GL-0 L29557-2 | | | 08/10/06:1210 | |
| WG | GELI | 135.00 | | |
| WG | H-3 (DIST) | 135.00 | | |
| WG | SR-90 (FAST) | 175.00 | | |
| WG-DN-MW-DN-117I-081006-GL-0 L29557-3 | | | 08/10/06:1420 | |
| WG | GELI | 135.00 | | |
| WG | H-3 (DIST) | 135.00 | | |
| WG | SR-90 (FAST) | 175.00 | | |
| WG-DN-MW-DN-118S-081006-GL-0 L29557-4 | | | 08/10/06:1600 | |
| WG | GELI | 135.00 | | |
| WG | H-3 (DIST) | 135.00 | | |
| WG | SR-90 (FAST) | 175.00 | | |

Internal Chain of Custody

08/16/06 10:17

Teledyne Brown Engineering
Internal Chain of CustodyL29557 10 of 49
Page: 1 of 3*****
Sample # L29557-1 Containernum 1Prod Analyst
GELI DW
H-3 (DIST) DW
SR-90 (FAST) LCB

| Relinquish Date | Relinquish By | | Received By |
|------------------|---------------|------------------|------------------------------|
| 08/11/2006 00:00 | | | 099999 Sample Custodian |
| 08/11/2006 11:23 | 099999 | Sample Custodian | 030854 Donna Webb |
| 08/14/2006 08:11 | 030854 | Donna Webb | 029728 Lauren Larsen |
| 08/14/2006 08:12 | 029728 | Lauren Larsen | 030854 Donna Webb |
| 08/14/2006 08:12 | 030854 | Donna Webb | 099999 Sample Custodian |

Sample # L29557-1 Containernum 2Prod Analyst
GELI DW
H-3 (DIST) DW
SR-90 (FAST) LCB

| Relinquish Date | Relinquish By | | Received By |
|------------------|---------------|------------------|------------------------------|
| 08/11/2006 00:00 | | | 099999 Sample Custodian |
| 08/11/2006 11:22 | 099999 | Sample Custodian | 030854 Donna Webb |
| 08/14/2006 08:11 | 030854 | Donna Webb | 029728 Lauren Larsen |
| 08/14/2006 08:13 | 029728 | Lauren Larsen | 030854 Donna Webb |
| 08/14/2006 08:14 | 030854 | Donna Webb | 099999 Sample Custodian |

Sample # L29557-2 Containernum 1Prod Analyst
GELI DW
H-3 (DIST) DW
SR-90 (FAST) LCB

| Relinquish Date | Relinquish By | | Received By |
|------------------|---------------|------------------|------------------------------|
| 08/11/2006 00:00 | | | 099999 Sample Custodian |
| 08/11/2006 11:23 | 099999 | Sample Custodian | 030854 Donna Webb |
| 08/14/2006 08:11 | 030854 | Donna Webb | 029728 Lauren Larsen |
| 08/14/2006 08:12 | 029728 | Lauren Larsen | 030854 Donna Webb |
| 08/14/2006 08:12 | 030854 | Donna Webb | 099999 Sample Custodian |

Sample # L29557-2 Containernum 2Prod Analyst
GELI DW
H-3 (DIST) DW
SR-90 (FAST) LCB

| Relinquish Date | Relinquish By | | Received By |
|------------------|---------------|------------------|------------------------------|
| 08/11/2006 00:00 | | | 099999 Sample Custodian |
| 08/11/2006 11:22 | 099999 | Sample Custodian | 030854 Donna Webb |
| 08/14/2006 08:11 | 030854 | Donna Webb | 029728 Lauren Larsen |

Internal Chain of Custody

Sample # L29557-2 Containernum 2

| Relinquish Date | | | Received By |
|------------------|--------|---------------|------------------------------|
| 08/14/2006 08:13 | 029728 | Lauren Larsen | 030854 Donna Webb |
| 08/14/2006 08:14 | 030854 | Donna Webb | 099999 Sample Custodian |

Sample # L29557-3 Containernum 1

| Prod | Analyst |
|--------------|---------|
| GELI | DW |
| H-3 (DIST) | DW |
| SR-90 (FAST) | LCB |

| Relinquish Date | Relinquish By | | Received By |
|------------------|---------------|------------------|------------------------------|
| 08/11/2006 00:00 | | | 099999 Sample Custodian |
| 08/11/2006 11:23 | 099999 | Sample Custodian | 030854 Donna Webb |
| 08/14/2006 08:11 | 030854 | Donna Webb | 029728 Lauren Larsen |
| 08/14/2006 08:12 | 029728 | Lauren Larsen | 030854 Donna Webb |
| 08/14/2006 08:12 | 030854 | Donna Webb | 099999 Sample Custodian |

Sample # L29557-3 Containernum 2

| Prod | Analyst |
|--------------|---------|
| GELI | DW |
| H-3 (DIST) | DW |
| SR-90 (FAST) | LCB |

| Relinquish Date | Relinquish By | | Received By |
|------------------|---------------|------------------|------------------------------|
| 08/11/2006 00:00 | | | 099999 Sample Custodian |
| 08/11/2006 11:22 | 099999 | Sample Custodian | 030854 Donna Webb |
| 08/14/2006 08:11 | 030854 | Donna Webb | 029728 Lauren Larsen |
| 08/14/2006 08:13 | 029728 | Lauren Larsen | 030854 Donna Webb |
| 08/14/2006 08:14 | 030854 | Donna Webb | 099999 Sample Custodian |

Sample # L29557-4 Containernum 1

| Prod | Analyst |
|--------------|---------|
| GELI | DW |
| H-3 (DIST) | DW |
| SR-90 (FAST) | LCB |

| Relinquish Date | Relinquish By | | Received By |
|------------------|---------------|------------------|------------------------------|
| 08/11/2006 00:00 | | | 099999 Sample Custodian |
| 08/11/2006 11:23 | 099999 | Sample Custodian | 030854 Donna Webb |
| 08/14/2006 08:11 | 030854 | Donna Webb | 029728 Lauren Larsen |
| 08/14/2006 08:12 | 029728 | Lauren Larsen | 030854 Donna Webb |
| 08/14/2006 08:12 | 030854 | Donna Webb | 099999 Sample Custodian |

Sample # L29557-4 Containernum 2

| Prod | Analyst |
|--------------|---------|
| GELI | DW |
| H-3 (DIST) | DW |
| SR-90 (FAST) | LCB |

08/16/06 10:17

Teledyne Brown Engineering
Internal Chain of Custody

L29557 12 of 49
Page: 3 of 3

Sample # L29557-4 Containernum 2

| Relinquish Date | Relinquish By | | Received By | Sample Custodian |
|------------------|---------------|------------------|-------------|------------------|
| 08/11/2006 00:00 | | | 099999 | |
| 08/11/2006 11:22 | 099999 | Sample Custodian | 030854 | Donna Webb |
| 08/14/2006 08:11 | 030854 | Donna Webb | 029728 | Lauren Larsen |
| 08/14/2006 08:13 | 029728 | Lauren Larsen | 030854 | Donna Webb |
| 08/14/2006 08:14 | 030854 | Donna Webb | 099999 | Sample Custodian |

08/16/06

Teledyne Brown Engineering
Internal Chain of Custody
Supplemental Sheet

Page 1 of 1

L29557

L29557-1 WG WG-DN-MW-DN-112S-081006-GL-013

| <u>Process step</u> | <u>Prod</u> | <u>Analyst</u> | <u>Date</u> |
|---------------------|--------------|----------------|-------------|
| Login | | RCHARLES | 08/11/06 |
| Aliquot | GELI | DW | 08/11/06 |
| Aliquot | H-3 (DIST) | DW | 08/11/06 |
| Aliquot | SR-90 (FAST) | LCB | 08/14/06 |
| Count Room | GELI | ILL | 08/11/06 |
| Count Room | H-3 (DIST) | KOJ | 08/12/06 |
| Count Room | SR-90 (FAST) | KOJ | 08/15/06 |

L29557-2 WG WG-DN-MW-DN-112I-081006-GL-014

| <u>Process step</u> | <u>Prod</u> | <u>Analyst</u> | <u>Date</u> |
|---------------------|--------------|----------------|-------------|
| Login | | RCHARLES | 08/11/06 |
| Aliquot | GELI | DW | 08/11/06 |
| Aliquot | H-3 (DIST) | DW | 08/11/06 |
| Aliquot | SR-90 (FAST) | LCB | 08/14/06 |
| Count Room | GELI | ILL | 08/11/06 |
| Count Room | H-3 (DIST) | KOJ | 08/12/06 |
| Count Room | SR-90 (FAST) | KOJ | 08/15/06 |

L29557-3 WG WG-DN-MW-DN-117I-081006-GL-015

| <u>Process step</u> | <u>Prod</u> | <u>Analyst</u> | <u>Date</u> |
|---------------------|--------------|----------------|-------------|
| Login | | RCHARLES | 08/11/06 |
| Aliquot | GELI | DW | 08/11/06 |
| Aliquot | H-3 (DIST) | DW | 08/11/06 |
| Aliquot | SR-90 (FAST) | LCB | 08/14/06 |
| Count Room | GELI | ILL | 08/11/06 |
| Count Room | H-3 (DIST) | KOJ | 08/12/06 |
| Count Room | SR-90 (FAST) | KOJ | 08/15/06 |

L29557-4 WG WG-DN-MW-DN-118S-081006-GL-016

| <u>Process step</u> | <u>Prod</u> | <u>Analyst</u> | <u>Date</u> |
|---------------------|--------------|----------------|-------------|
| Login | | RCHARLES | 08/11/06 |
| Aliquot | GELI | DW | 08/11/06 |
| Aliquot | H-3 (DIST) | DW | 08/11/06 |
| Aliquot | SR-90 (FAST) | LCB | 08/14/06 |
| Count Room | GELI | ILL | 08/11/06 |
| Count Room | H-3 (DIST) | KOJ | 08/12/06 |
| Count Room | SR-90 (FAST) | KOJ | 08/15/06 |

Analytical Results Summary

Report of Analysis

08/16/06 10:00

L29557

Conestoga-Rovers & Associates

EX001-3ESPDRES-06

Kathy Shaw

Sample ID: **WG-DN-MW-DN-112S-081006-GL-013**

Station:

Description:

LIMS Number: L29557-1

Collect Start: 08/10/2006 11:05

Collect Stop:

Receive Date: 08/11/2006

Matrix: Ground Water

Volume:

% Moisture:

(WG)

| Radionuclide | SOP# | Activity Conc | Uncertainty 2 Sigma | MDC | Units | Run # | Aliquot Volume | Aliquot Units | Reference Date | Count Date | Count Time | Count Units | Flag Values |
|--------------|------|---------------|---------------------|-----------------|-------|-------|----------------|---------------|----------------|------------|------------|-------------|-------------|
| H-3 (DIST) | 2010 | 6.67E+01 | 1.14E+02 | 1.81E+02 | pCi/L | | 10 | ml | | 08/12/06 | 60 | M | U |
| TOTAL SR | 2018 | 5.34E-01 | 6.46E-01 | 1.25E+00 | pCi/L | | 450 | ml | 08/10/06 11:05 | 08/15/06 | 80 | M | U |
| MN-54 | 2007 | -1.52E+00 | 3.46E+00 | 5.36E+00 | pCi/L | | 3245.69 | ml | 08/10/06 13:05 | 08/11/06 | 7843 | Sec | U |
| CO-58 | 2007 | -1.39E-01 | 3.47E+00 | 5.63E+00 | pCi/L | | 3245.69 | ml | 08/10/06 13:05 | 08/11/06 | 7843 | Sec | U |
| FE-59 | 2007 | 2.14E+00 | 6.74E+00 | 1.17E+01 | pCi/L | | 3245.69 | ml | 08/10/06 13:05 | 08/11/06 | 7843 | Sec | U |
| CO-60 | 2007 | -4.99E-02 | 3.57E+00 | 5.88E+00 | pCi/L | | 3245.69 | ml | 08/10/06 13:05 | 08/11/06 | 7843 | Sec | U |
| ZN-65 | 2007 | -1.38E+00 | 8.29E+00 | 1.16E+01 | pCi/L | | 3245.69 | ml | 08/10/06 13:05 | 08/11/06 | 7843 | Sec | U |
| NB-95 | 2007 | 6.19E+00 | 4.10E+00 | 6.88E+00 | pCi/L | | 3245.69 | ml | 08/10/06 13:05 | 08/11/06 | 7843 | Sec | U |
| ZR-95 | 2007 | 9.24E-01 | 5.84E+00 | 9.70E+00 | pCi/L | | 3245.69 | ml | 08/10/06 13:05 | 08/11/06 | 7843 | Sec | U |
| CS-134 | 2007 | -2.34E+00 | 4.18E+00 | 5.64E+00 | pCi/L | | 3245.69 | ml | 08/10/06 13:05 | 08/11/06 | 7843 | Sec | U |
| CS-137 | 2007 | 1.73E+00 | 3.82E+00 | 5.80E+00 | pCi/L | | 3245.69 | ml | 08/10/06 13:05 | 08/11/06 | 7843 | Sec | U |
| BA-140 | 2007 | 4.50E+00 | 1.25E+01 | 2.14E+01 | pCi/L | | 3245.69 | ml | 08/10/06 13:05 | 08/11/06 | 7843 | Sec | U |
| LA-140 | 2007 | 1.01E+00 | 4.53E+00 | 7.63E+00 | pCi/L | | 3245.69 | ml | 08/10/06 13:05 | 08/11/06 | 7843 | Sec | U |

Flag Values

U = Compound/Analyte not detected or less than 3 sigma
 + = Activity concentration exceeds MDC and 3 sigma; peak identified(gamma only)
 U* = Compound/Analyte not detected. Peak not identified, but forced activity concentration exceeds MDC and 3 sigma
 High = Activity concentration exceeds customer reporting value
 Spec = MDC exceeds customer technical specification
 L = Low recovery
 H = High recovery

Bolded text indicates reportable value.

No = Peak not identified in gamma spectrum
 Yes = Peak identified in gamma spectrum
 **** Results are reported on an as received basis unless otherwise noted

MDC - Minimum Detectable Concentration

Report of Analysis

08/16/06 10:00

L29557

Conestoga-Rovers & Associates

EX001-3ESPDRES-06



Kathy Shaw

Sample ID: WG-DN-MW-DN-1121-081006-GL-014

Station:

Description:

LIMS Number: L29557-2

Collect Start: 08/10/2006 12:10

Collect Stop:

Receive Date: 08/11/2006

Matrix: Ground Water

Volume:

% Moisture:

(WG)

| Radionuclide | SOP# | Activity Conc | Uncertainty 2 Sigma | MDC | Units | Run # | Aliquot Volume | Aliquot Units | Reference Date | Count Date | Count Time | Count Units | Flag Values |
|--------------|------|---------------|---------------------|----------|-------|-------|----------------|---------------|----------------|------------|------------|-------------|-------------|
| H-3 (DIST) | 2010 | 1.52E+03 | 2.14E+02 | 2.16E+02 | pCi/L | | 10 | ml | | 08/12/06 | 41.24 | M | + |
| TOTAL SR | 2018 | 1.49E+00 | 9.57E-01 | 1.72E+00 | pCi/L | | 450 | ml | 08/10/06 12:10 | 08/15/06 | 80 | M | U |
| MN-54 | 2007 | -1.20E+00 | 3.87E+00 | 6.00E+00 | pCi/L | | 3062.45 | ml | 08/10/06 12:10 | 08/11/06 | 3661 | Sec | U |
| CO-58 | 2007 | 2.70E-02 | 3.91E+00 | 6.45E+00 | pCi/L | | 3062.45 | ml | 08/10/06 12:10 | 08/11/06 | 3661 | Sec | U |
| FE-59 | 2007 | 1.12E+00 | 7.55E+00 | 1.26E+01 | pCi/L | | 3062.45 | ml | 08/10/06 12:10 | 08/11/06 | 3661 | Sec | U |
| CO-60 | 2007 | 6.39E-01 | 4.36E+00 | 8.44E+00 | pCi/L | | 3062.45 | ml | 08/10/06 12:10 | 08/11/06 | 3661 | Sec | U |
| ZN-65 | 2007 | -5.43E+00 | 8.73E+00 | 1.19E+01 | pCi/L | | 3062.45 | ml | 08/10/06 12:10 | 08/11/06 | 3661 | Sec | U |
| NB-95 | 2007 | -1.48E+00 | 3.64E+00 | 5.57E+00 | pCi/L | | 3062.45 | ml | 08/10/06 12:10 | 08/11/06 | 3661 | Sec | U |
| ZR-95 | 2007 | -5.21E+00 | 6.67E+00 | 9.39E+00 | pCi/L | | 3062.45 | ml | 08/10/06 12:10 | 08/11/06 | 3661 | Sec | U |
| CS-134 | 2007 | 1.27E+00 | 4.24E+00 | 6.59E+00 | pCi/L | | 3062.45 | ml | 08/10/06 12:10 | 08/11/06 | 3661 | Sec | U |
| CS-137 | 2007 | -7.55E-03 | 4.25E+00 | 7.12E+00 | pCi/L | | 3062.45 | ml | 08/10/06 12:10 | 08/11/06 | 3661 | Sec | U |
| BA-140 | 2007 | 4.39E+00 | 1.40E+01 | 2.37E+01 | pCi/L | | 3062.45 | ml | 08/10/06 12:10 | 08/11/06 | 3661 | Sec | U |
| LA-140 | 2007 | -4.83E+00 | 5.89E+00 | 7.59E+00 | pCi/L | | 3062.45 | ml | 08/10/06 12:10 | 08/11/06 | 3661 | Sec | U |

Flag Values

U = Compound/Analyte not detected or less than 3 sigma
 + = Activity concentration exceeds MDC and 3 sigma; peak identified(gamma only)
 U* = Compound/Analyte not detected. Peak not identified, but forced activity concentration exceeds MDC and 3 sigma
 High = Activity concentration exceeds customer reporting value
 Spec = MDC exceeds customer technical specification
 L = Low recovery
 H = High recovery

Bolded text indicates reportable value.

No = Peak not identified in gamma spectrum
 Yes = Peak identified in gamma spectrum
 **** Results are reported on an as received basis unless otherwise noted

MDC - Minimum Detectable Concentration

Report of Analysis

08/16/06 10:00

L29557

Conestoga-Rovers & Associates

EX001-3ESPDRES-06

Kathy Shaw

Sample ID: **WG-DN-MW-DN-1171-081006-GL-015**

Station:

Description:

LIMS Number: L29557-3

Collect Start: 08/10/2006 14:20

Collect Stop:

Receive Date: 08/11/2006

Matrix: Ground Water

Volume:

% Moisture:

(WG)

| Radionuclide | SOP# | Activity Conc | Uncertainty 2 Sigma | MDC | Units | Run # | Aliquot Volume | Aliquot Units | Reference Date | Count Date | Count Time | Count Units | Flag Values |
|--------------|------|---------------|---------------------|----------|-------|-------|----------------|---------------|----------------|------------|------------|-------------|-------------|
| H-3 (DIST) | 2010 | 1.03E+03 | 1.70E+02 | 1.89E+02 | pCi/L | | 10 | ml | 08/10/06 14:20 | 08/12/06 | 54.73 | M | + |
| TOTAL SR | 2018 | -9.74E-02 | 7.66E-01 | 1.65E+00 | pCi/L | | 450 | ml | 08/10/06 14:20 | 08/15/06 | 80 | M | U |
| MN-54 | 2007 | -9.92E-02 | 1.42E+00 | 2.47E+00 | pCi/L | | 1002.5 | ml | 08/10/06 14:20 | 08/11/06 | 87634 | Sec | U |
| CO-58 | 2007 | -6.70E-01 | 1.34E+00 | 2.30E+00 | pCi/L | | 1002.5 | ml | 08/10/06 14:20 | 08/11/06 | 87634 | Sec | U |
| FE-59 | 2007 | -3.22E-01 | 2.73E+00 | 4.69E+00 | pCi/L | | 1002.5 | ml | 08/10/06 14:20 | 08/11/06 | 87634 | Sec | U |
| CO-60 | 2007 | 4.50E-01 | 1.50E+00 | 2.62E+00 | pCi/L | | 1002.5 | ml | 08/10/06 14:20 | 08/11/06 | 87634 | Sec | U |
| ZN-65 | 2007 | 9.62E-01 | 3.27E+00 | 4.99E+00 | pCi/L | | 1002.5 | ml | 08/10/06 14:20 | 08/11/06 | 87634 | Sec | U |
| NB-95 | 2007 | 8.75E-01 | 1.45E+00 | 2.44E+00 | pCi/L | | 1002.5 | ml | 08/10/06 14:20 | 08/11/06 | 87634 | Sec | U |
| ZR-95 | 2007 | -9.08E-01 | 2.55E+00 | 4.14E+00 | pCi/L | | 1002.5 | ml | 08/10/06 14:20 | 08/11/06 | 87634 | Sec | U |
| CS-134 | 2007 | -3.84E-03 | 1.76E+00 | 2.55E+00 | pCi/L | | 1002.5 | ml | 08/10/06 14:20 | 08/11/06 | 87634 | Sec | U |
| CS-137 | 2007 | -1.21E+00 | 1.63E+00 | 2.63E+00 | pCi/L | | 1002.5 | ml | 08/10/06 14:20 | 08/11/06 | 87634 | Sec | U |
| BA-140 | 2007 | 1.24E+00 | 5.63E+00 | 9.44E+00 | pCi/L | | 1002.5 | ml | 08/10/06 14:20 | 08/11/06 | 87634 | Sec | U |
| LA-140 | 2007 | -1.73E+00 | 1.76E+00 | 2.83E+00 | pCi/L | | 1002.5 | ml | 08/10/06 14:20 | 08/11/06 | 87634 | Sec | U |

Flag Values

U = Compound/Analyte not detected or less than 3 sigma
 + = Activity concentration exceeds MDC and 3 sigma, peak identified (gamma only)
 U* = Compound/Analyte not detected. Peak not identified, but forced activity concentration exceeds MDC and 3 sigma
 High = Activity concentration exceeds customer reporting value
 Spec = MDC exceeds customer technical specification
 L = Low recovery
 H = High recovery

Bolded text indicates reportable value.

No = Peak not identified in gamma spectrum
 Yes = Peak identified in gamma spectrum
 **** Results are reported on an as received basis unless otherwise noted

MDC - Minimum Detectable Concentration

Report of Analysis

08/16/06 10:00

L29557

Conestoga-Rovers & Associates

EX001-3ESPDRES-06



Kathy Shaw

| Sample ID: WG-DN-MW-DN-118S-081006-GL-016 | | | | | | | | | | Matrix: Ground Water | | | | (WG) |
|--|------|---------------|---------------------|----------|-------|-------|----------------|---------------|----------------|---------------------------------|------------|-------------|-------------|------|
| Station: | | | | | | | | | | Volume: | | | | |
| Description: | | | | | | | | | | % Moisture: | | | | |
| LIMS Number: L29557-4 | | | | | | | | | | Collect Start: 08/10/2006 16:00 | | | | |
| | | | | | | | | | | Collect Stop: | | | | |
| | | | | | | | | | | Receive Date: 08/11/2006 | | | | |
| Radionuclide | SOP# | Activity Conc | Uncertainty 2 Sigma | MDC | Units | Run # | Aliquot Volume | Aliquot Units | Reference Date | Count Date | Count Time | Count Units | Flag Values | |
| H-3 (DIST) | 2010 | 1.65E+03 | 2.27E+02 | 2.25E+02 | pCi/L | | 10 | ml | 08/10/06 16:00 | 08/12/06 | 39.59 | M | + | |
| TOTAL SR | 2018 | 9.43E-02 | 9.24E-01 | 1.75E+00 | pCi/L | | 450 | ml | 08/10/06 16:00 | 08/15/06 | 200 | M | U | |
| MN-54 | 2007 | 1.34E+00 | 3.66E+00 | 6.36E+00 | pCi/L | | 3015.87 | ml | 08/10/06 16:00 | 08/11/06 | 3901 | Sec | U | No |
| CO-58 | 2007 | 6.50E-01 | 3.03E+00 | 5.20E+00 | pCi/L | | 3015.87 | ml | 08/10/06 16:00 | 08/11/06 | 3901 | Sec | U | No |
| FE-59 | 2007 | -8.20E-01 | 6.46E+00 | 1.02E+01 | pCi/L | | 3015.87 | ml | 08/10/06 16:00 | 08/11/06 | 3901 | Sec | U | No |
| CO-60 | 2007 | 2.32E+00 | 3.50E+00 | 6.58E+00 | pCi/L | | 3015.87 | ml | 08/10/06 16:00 | 08/11/06 | 3901 | Sec | U | No |
| ZN-65 | 2007 | 4.66E+00 | 6.66E+00 | 1.13E+01 | pCi/L | | 3015.87 | ml | 08/10/06 16:00 | 08/11/06 | 3901 | Sec | U | No |
| NB-95 | 2007 | 5.71E+00 | 3.76E+00 | 6.98E+00 | pCi/L | | 3015.87 | ml | 08/10/06 16:00 | 08/11/06 | 3901 | Sec | U | No |
| ZR-95 | 2007 | -2.27E+00 | 6.06E+00 | 9.54E+00 | pCi/L | | 3015.87 | ml | 08/10/06 16:00 | 08/11/06 | 3901 | Sec | U | No |
| CS-134 | 2007 | 7.60E-01 | 3.58E+00 | 5.20E+00 | pCi/L | | 3015.87 | ml | 08/10/06 16:00 | 08/11/06 | 3901 | Sec | U | No |
| CS-137 | 2007 | 7.97E-01 | 3.82E+00 | 6.57E+00 | pCi/L | | 3015.87 | ml | 08/10/06 16:00 | 08/11/06 | 3901 | Sec | U | No |
| BA-140 | 2007 | 8.80E+00 | 1.27E+01 | 2.24E+01 | pCi/L | | 3015.87 | ml | 08/10/06 16:00 | 08/11/06 | 3901 | Sec | U | No |
| LA-140 | 2007 | 3.21E+00 | 4.40E+00 | 8.28E+00 | pCi/L | | 3015.87 | ml | 08/10/06 16:00 | 08/11/06 | 3901 | Sec | U | No |

Flag Values

= Compound/Analyte not detected or less than 3 sigma
 U = Activity concentration exceeds MDC and 3 sigma; peak identified (gamma only)
 + = Compound/Analyte not detected. Peak not identified, but forced activity concentration exceeds MDC and 3 sigma
 U* = Activity concentration exceeds customer reporting value
 High Spec = MDC exceeds customer technical specification
 L = Low recovery
 H = High recovery

Bolded text indicates reportable value.

No = Peak not identified in gamma spectrum
 Yes = Peak identified in gamma spectrum
 **** Results are reported on an as received basis unless otherwise noted

MDC - Minimum Detectable Concentration

QC Results Summary

QC Summary Report

for L29557

8/16/2006 10:17:12AM



H-3 (DIST)

Method Blank Summary

| <u>TBE Sample ID</u> | <u>Radionuclide</u> | <u>Matrix</u> | <u>Count Date/Time</u> | <u>Blank Result</u> | <u>Units</u> | <u>Qualifier</u> | <u>P/F</u> |
|----------------------|---------------------|---------------|------------------------|---------------------|--------------|------------------|------------|
| WG4307-1 | H-3 (DIST) | WO | 08/11/2006 15:18 | < 1.780E+00 | pCi/Total | U | P |

LCS Sample Summary

| <u>TBE Sample ID</u> | <u>Radionuclide</u> | <u>Matrix</u> | <u>Count Date/Time</u> | <u>Spike Value</u> | <u>LCS Result</u> | <u>Units</u> | <u>Spike Recovery</u> | <u>Range</u> | <u>Qualifier</u> | <u>P/F</u> |
|----------------------|---------------------|---------------|------------------------|--------------------|-------------------|--------------|-----------------------|--------------|------------------|------------|
| WG4307-2 | H-3 (DIST) | WO | 08/11/2006 16:22 | 5.05E+002 | 4.620E+02 | pCi/Total | 91.5 | 70-130 | + | P |

Spike ID: 3H-041706-1
Spike conc: 5.05E+002
Spike Vol: 1.00E+000

Duplicate Summary

| <u>TBE Sample ID</u> | <u>Radionuclide</u> | <u>Matrix</u> | <u>Count Date/Time</u> | <u>Original Result</u> | <u>DUP Result</u> | <u>Units</u> | <u>RPD</u> | <u>Range</u> | <u>Qualifier</u> | <u>P/F</u> |
|----------------------|---------------------|---------------|------------------------|------------------------|-------------------|--------------|------------|--------------|------------------|------------|
| WG4307-3 L29543-1 | H-3 (DIST) | WG | 08/11/2006 16:42 | 4.510E+02 | 4.960E+02 | pCi/L | | <30 | * | NE |

+ Positive Result
U Compound/analyte was analyzed, peak not identified and/or not detected above MDC
* < 5 times the MDC are not evaluated
** Nuclide not detected
*** Spiking level < 5 times activity
P Pass
F Fail
NE Not evaluated

QC Summary Report

for L29557

8/16/2006 10:17:12AM



TOTAL SR

Method Blank Summary

| <u>TBE Sample ID</u> | <u>Radionuclide</u> | <u>Matrix</u> | <u>Count Date/Time</u> | <u>Blank Result</u> | <u>Units</u> | <u>Qualifier</u> | <u>P/F</u> |
|----------------------|---------------------|---------------|------------------------|---------------------|--------------|------------------|------------|
| WG4323-1 | TOTAL SR | WO | 08/15/2006 18:45 | < 7.680E-01 | pCi/Total | U | P |

LCS Sample Summary

| <u>TBE Sample ID</u> | <u>Radionuclide</u> | <u>Matrix</u> | <u>Count Date/Time</u> | <u>Spike Value</u> | <u>LCS Result</u> | <u>Units</u> | <u>Spike Recovery</u> | <u>Range</u> | <u>Qualifier</u> | <u>P/F</u> |
|----------------------|---------------------|---------------|------------------------|--------------------|-------------------|--------------|-----------------------|--------------|------------------|------------|
| WG4323-2 | TOTAL SR | WO | 08/15/2006 18:45 | 5.84E+001 | 6.350E+01 | pCi/Total | 108.8 | 70-130 | + | P |

Spike ID: 90SR-011905
Spike conc: 2.34E+002
Spike Vol: 2.50E-001

Duplicate Summary

| <u>TBE Sample ID</u> | <u>Radionuclide</u> | <u>Matrix</u> | <u>Count Date/Time</u> | <u>Original Result</u> | <u>DUP Result</u> | <u>Units</u> | <u>RPD</u> | <u>Range</u> | <u>Qualifier</u> | <u>P/F</u> |
|----------------------|---------------------|---------------|------------------------|------------------------|-------------------|--------------|------------|--------------|------------------|------------|
| WG4323-3 L29576-1 | TOTAL SR | WG | 08/15/2006 18:45 | < 1.440E+00 | < 1.700E+00 | pCi/L | | <30 | ** | NE |

Positive Result
Compound/analyte was analyzed, peak not identified and/or not detected above MDC
< 5 times the MDC are not evaluated
Nuclide not detected
Spiking level < 5 times activity
Pass
Fail
Not evaluated

Raw Data

Work Order: L29557 Customer: Exelon Page: 1

Nuclide: H-3 (DIST) Project: EX001-3ESPDRES-06

| Sample ID | Run Analysis | Reference Date/time | Volume/ Aliquot | Scavenge Date/time | Milking Date/time | Mount Weight | Recovery Date/time | Count Date/time | Counter ID | Total counts | Sample dt(min) | Bkg counts | Bkg dt(min) | Eff. Factor | Decay & Ingrowth Factor |
|--|--------------|---------------------|--------------------|--------------------|-------------------|--------------|--------------------|-----------------|------------|--------------|----------------|------------|-------------|-------------|-------------------------|
| L29557-1 | H-3 DIST | | 10 ml | | | 0 | | 12-aug-06 09:01 | LS7 | 136 | 60 | 1.95 | 60 | .209 | DW |
| WG-DN-MW-DN-112S-081006-GL-013 | | | | | | | | | | | | | | | |
| Activity: 6.67E+01 Error: 1.14E+02 MDC: 1.81E+02 * | | | | | | | | | | | | | | | |
| L29557-2 | H-3 DIST | | 10 ml | | | 0 | | 12-aug-06 10:05 | LS7 | 375 | 41.24 | 1.95 | 60 | .212 | DW |
| WG-DN-MW-DN-112I-081006-GL-014 | | | | | | | | | | | | | | | |
| Activity: 1.52E+03 * Error: 2.14E+02 MDC: 2.16E+02 | | | | | | | | | | | | | | | |
| L29557-3 | H-3 DIST | | 10 ml | | | 0 | | 12-aug-06 10:50 | LS7 | 369 | 54.73 | 1.95 | 60 | .209 | DW |
| WG-DN-MW-DN-117I-081006-GL-015 | | | | | | | | | | | | | | | |
| Activity: 1.03E+03 * Error: 1.7E+02 MDC: 1.89E+02 | | | | | | | | | | | | | | | |
| L29557-4 | H-3 DIST | | 10 ml | | | 0 | | 12-aug-06 11:49 | LS7 | 377 | 39.59 | 1.95 | 60 | .207 | DW |
| WG-DN-MW-DN-118S-081006-GL-016 | | | | | | | | | | | | | | | |
| Activity: 1.65E+03 * Error: 2.27E+02 MDC: 2.25E+02 | | | | | | | | | | | | | | | |

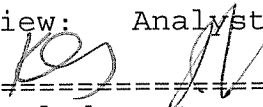
Work Order: L29557

Customer: Exelon

Project : EX001-3ESPDRES-06

Nuclide: SR-90 (FAST)

| Sample ID | Run Analysis | Reference Date/time | Volume/ Aliquot | Scavenge Date/time | Milking Date/time | Mount Weight | Recovery | Count Date/time | Counter ID | Total counts | Sample dt (min) | Bkg counts | Bkg dt (min) | Eff. Factor | Decay & Ingrowth Factor | Analyst |
|--------------------------------|--------------|---------------------|-----------------|--------------------|-------------------|--------------|----------|-----------------|------------|--------------|-----------------|------------|--------------|-------------|-------------------------|---------|
| L29557-1 | TOTAL SR | 10-aug-06 11:05 | 450 ml | 15-aug-06 13:45 | | 0 | 106.59 | 15-aug-06 18:45 | X2D | 77 | 80 | 307 | 400 | .343 | 1 | LCB |
| WG-DN-MW-DN-112S-081006-GL-013 | | | | | | | | | | | | | | | | |
| Activity: 5.34E-01 | | Error: 6.46E-01 | | MDC: 1.25E+00 * | | | | | | | | | | | | |
| L29557-2 | TOTAL SR | 10-aug-06 12:10 | 450 ml | 15-aug-06 13:45 | | 0 | 85.99 | 15-aug-06 18:45 | X3A | 107 | 80 | 363 | 400 | .335 | 1 | LCB |
| WG-DN-MW-DN-112I-081006-GL-014 | | | | | | | | | | | | | | | | |
| Activity: 1.49E+00 | | Error: 9.57E-01 | | MDC: 1.72E+00 * | | | | | | | | | | | | |
| L29557-3 | TOTAL SR | 10-aug-06 14:20 | 450 ml | 15-aug-06 13:45 | | 0 | 82.42 | 15-aug-06 18:45 | X3B | 62 | 80 | 321 | 400 | .343 | 1 | LCB |
| WG-DN-MW-DN-117I-081006-GL-015 | | | | | | | | | | | | | | | | |
| Activity: -9.74E-02 | | Error: 7.66E-01 | | MDC: 1.65E+00 * | | | | | | | | | | | | |
| L29557-4 | TOTAL SR | 10-aug-06 16:00 | 450 ml | 15-aug-06 13:45 | | 0 | 44.51 | 15-aug-06 20:45 | X4A | 145 | 200 | 284 | 400 | .358 | 1 | LCB |
| WG-DN-MW-DN-118S-081006-GL-016 | | | | | | | | | | | | | | | | |
| Activity: 9.43E-02 | | Error: 9.24E-01 | | MDC: 1.75E+00 * | | | | | | | | | | | | |

Sec. Review: Analyst: LIMS: 

=====

VAX/VMS Teledyne Brown Eng. Laboratory Gamma Report: 14-AUG-2006 12:22:52.87

TBE07 P-10768B HpGe ***** Aquisition Date/Time: 14-AUG-2006 10:46:42.39

LIMS No., Customer Name, Client ID: WG4311-1 WG EX/DRES

Sample ID : 07WG4311-1 Smple Date: 10-AUG-2006 13:05:00.

Sample Type : WG Geometry : 073L082504

Quantity : 3.24570E+00 L BKGFILE : 07BG072806MT

Start Channel : 40 Energy Tol : 1.00000 Real Time : 0 01:36:02.33

End Channel : 4090 Pk Srch Sens: 5.00000 Live time : 0 01:36:01.10

MDA Constant : 0.00 Library Used: LIBD

| Pk | It | Energy | Area | Bkgnd | FWHM | Channel | %Eff | Cts/Sec | %Err | Fit |
|----|----|----------|------|-------|------|---------|----------|----------|-------|----------|
| 1 | 1 | 140.51* | 72 | 254 | 2.88 | 282.17 | 2.36E+00 | 1.25E-02 | 46.5 | 1.68E+00 |
| 2 | 4 | 241.84* | 61 | 83 | 1.38 | 485.09 | 2.04E+00 | 1.06E-02 | 31.2 | 2.28E+00 |
| 3 | 1 | 295.06* | 88 | 117 | 1.68 | 591.64 | 1.81E+00 | 1.53E-02 | 28.1 | 1.74E+00 |
| 4 | 1 | 351.98* | 170 | 74 | 1.28 | 705.61 | 1.61E+00 | 2.96E-02 | 12.5 | 4.21E+00 |
| 5 | 1 | 609.23* | 120 | 50 | 1.48 | 1220.61 | 1.09E+00 | 2.09E-02 | 15.6 | 1.55E+00 |
| 6 | 1 | 1121.80 | 81 | 41 | 0.82 | 2246.28 | 7.02E-01 | 1.41E-02 | 21.4 | 8.05E+01 |
| 7 | 1 | 1377.42* | 19 | 5 | 1.99 | 2757.59 | 6.07E-01 | 3.36E-03 | 33.6 | 8.16E-01 |
| 8 | 1 | 1462.12 | 9 | 32 | 0.77 | 2926.97 | 5.82E-01 | 1.60E-03 | 151.1 | 3.82E+00 |

Flag: "*" = Peak area was modified by background subtraction

Nuclide Line Activity Report

Flag: "*" = Keyline

Summary of Nuclide Activity
Sample ID : 07WG4311-1

Page : 2
Acquisition date : 14-AUG-2006 10:46:42

| | | |
|---|---|--------|
| Total number of lines in spectrum | 8 | |
| Number of unidentified lines | 7 | |
| Number of lines tentatively identified by NID | 1 | 12.50% |

**** There are no nuclides meeting summary criteria ****

| | |
|--------------------------------|-----------------------------------|
| Flags: "K" = Keyline not found | "M" = Manually accepted |
| "E" = Manually edited | "A" = Nuclide specific abn. limit |

Unidentified Energy Lines

Page : 3

Sample ID : 07WG4311-1

Acquisition date : 14-AUG-2006 10:46:42

| It | Energy | Area | Bkgnd | FWHM | Channel | Left | Pw | Cts/Sec | %Err | %Eff | Flags |
|----|---------|------|-------|------|---------|------|----|----------|------|----------|-------|
| 1 | 140.51 | 72 | 254 | 2.88 | 282.17 | 277 | 12 | 1.25E-02 | 93.0 | 2.36E+00 | |
| 4 | 241.84 | 61 | 83 | 1.38 | 485.09 | 475 | 14 | 1.06E-02 | 62.4 | 2.04E+00 | T |
| 1 | 295.06 | 88 | 117 | 1.68 | 591.64 | 585 | 13 | 1.53E-02 | 56.3 | 1.81E+00 | |
| 1 | 351.98 | 170 | 74 | 1.28 | 705.61 | 701 | 9 | 2.96E-02 | 24.9 | 1.61E+00 | |
| 1 | 609.23 | 120 | 50 | 1.48 | 1220.61 | 1216 | 12 | 2.09E-02 | 31.2 | 1.09E+00 | |
| 1 | 1121.80 | 81 | 41 | 0.82 | 2246.28 | 2236 | 18 | 1.41E-02 | 42.7 | 7.02E-01 | |
| 1 | 1377.42 | 19 | 5 | 1.99 | 2757.59 | 2752 | 10 | 3.36E-03 | 67.1 | 6.07E-01 | |
| 1 | 1462.12 | 9 | 32 | 0.77 | 2926.97 | 2916 | 16 | 1.60E-03 | **** | 5.82E-01 | |

Flags: "T" = Tentatively associated

Summary of Nuclide Activity

Total number of lines in spectrum 8
 Number of unidentified lines 7
 Number of lines tentatively identified by NID 1 12.50%
 **** There are no nuclides meeting summary criteria ****

Flags: "K" = Keyline not found "M" = Manually accepted
 "E" = Manually edited "A" = Nuclide specific abn. limit

Interference Report

No interference correction performed

Combined Activity-MDA Report

---- Non-Identified Nuclides ----

| Nuclide | Key-Line Activity (pCi/L) | K.L. Ided | Act error | MDA (pCi/L) | MDA error | Act/MDA |
|---------|---------------------------------|--------------|-----------|----------------|-----------|---------|
| BE-7 | 1.874E-02 | | 2.057E+01 | 3.463E+01 | 0.000E+00 | 0.001 |
| NA-24 | -8.443E+01 | | 1.989E+02 | 2.886E+02 | 0.000E+00 | -0.293 |
| K-40 | -3.948E+00 | | 4.223E+01 | 8.408E+01 | 0.000E+00 | -0.047 |
| CR-51 | -1.861E+01 | | 2.440E+01 | 3.732E+01 | 0.000E+00 | -0.499 |
| MN-54 | -1.587E+00 | | 2.957E+00 | 4.478E+00 | 0.000E+00 | -0.354 |
| CO-57 | -1.592E-02 | | 2.713E+00 | 4.317E+00 | 0.000E+00 | -0.004 |
| CO-58 | 1.274E+00 | | 2.758E+00 | 4.744E+00 | 0.000E+00 | 0.269 |
| FE-59 | -1.775E-01 | | 5.488E+00 | 9.090E+00 | 0.000E+00 | -0.020 |
| CO-60 | -2.681E-01 | | 2.435E+00 | 3.906E+00 | 0.000E+00 | -0.069 |
| ZN-65 | 3.584E+00 | | 6.371E+00 | 1.014E+01 | 0.000E+00 | 0.354 |
| SE-75 | -1.283E+00 | | 3.291E+00 | 5.264E+00 | 0.000E+00 | -0.244 |
| SR-85 | -5.385E+00 | | 3.654E+00 | 5.530E+00 | 0.000E+00 | -0.974 |
| Y-88 | -2.555E-01 | | 2.671E+00 | 4.341E+00 | 0.000E+00 | -0.059 |
| NB-94 | -1.915E+00 | | 2.824E+00 | 4.295E+00 | 0.000E+00 | -0.446 |
| NB-95 | -1.195E+00 | | 2.742E+00 | 4.229E+00 | 0.000E+00 | -0.283 |
| ZR-95 | 1.996E+00 | | 4.497E+00 | 7.770E+00 | 0.000E+00 | 0.257 |
| MO-99 | -6.089E-02 | | 5.146E+01 | 8.419E+01 | 0.000E+00 | -0.001 |
| RU-103 | 2.189E+00 | | 2.771E+00 | 4.979E+00 | 0.000E+00 | 0.440 |
| RU-106 | -1.873E+00 | | 2.251E+01 | 3.690E+01 | 0.000E+00 | -0.051 |
| AG-110m | 1.981E+00 | | 2.294E+00 | 4.186E+00 | 0.000E+00 | 0.473 |

| | | | | | |
|---------|------------|-----------|-----------|-----------|--------|
| SN-113 | 9.567E-03 | 3.522E+00 | 5.680E+00 | 0.000E+00 | 0.002 |
| SB-124 | 3.736E-01 | 2.874E+00 | 4.569E+00 | 0.000E+00 | 0.082 |
| SB-125 | -5.878E+00 | 7.666E+00 | 1.129E+01 | 0.000E+00 | -0.520 |
| TE-129M | -1.380E+01 | 3.545E+01 | 5.439E+01 | 0.000E+00 | -0.254 |
| I-131 | 9.755E-01 | 3.584E+00 | 5.951E+00 | 0.000E+00 | 0.164 |
| BA-133 | 8.008E-01 | 4.233E+00 | 6.138E+00 | 0.000E+00 | 0.130 |
| CS-134 | -2.019E+00 | 2.921E+00 | 3.745E+00 | 0.000E+00 | -0.539 |
| CS-136 | 2.487E+00 | 3.350E+00 | 5.932E+00 | 0.000E+00 | 0.419 |
| CS-137 | -3.610E+00 | 2.749E+00 | 3.757E+00 | 0.000E+00 | -0.961 |
| CE-139 | -2.006E+00 | 2.461E+00 | 3.956E+00 | 0.000E+00 | -0.507 |
| BA-140 | 4.325E+00 | 1.110E+01 | 1.928E+01 | 0.000E+00 | 0.224 |
| LA-140 | -7.236E-01 | 3.538E+00 | 5.467E+00 | 0.000E+00 | -0.132 |
| CE-141 | 2.382E+00 | 5.253E+00 | 8.137E+00 | 0.000E+00 | 0.293 |
| CE-144 | 4.205E+00 | 2.122E+01 | 3.406E+01 | 0.000E+00 | 0.123 |
| EU-152 | -6.851E+00 | 8.160E+00 | 1.227E+01 | 0.000E+00 | -0.558 |
| EU-154 | -3.145E+00 | 5.562E+00 | 8.521E+00 | 0.000E+00 | -0.369 |
| RA-226 | 1.107E+01 | 6.582E+01 | 1.172E+02 | 0.000E+00 | 0.094 |
| AC-228 | -1.127E+00 | 1.111E+01 | 1.957E+01 | 0.000E+00 | -0.058 |
| TH-228 | 8.359E-01 | 5.294E+00 | 9.329E+00 | 0.000E+00 | 0.090 |
| TH-232 | -1.126E+00 | 1.109E+01 | 1.955E+01 | 0.000E+00 | -0.058 |
| U-235 | 9.904E+00 | 2.466E+01 | 3.608E+01 | 0.000E+00 | 0.274 |
| U-238 | 7.973E+01 | 3.004E+02 | 5.201E+02 | 0.000E+00 | 0.153 |
| AM-241 | 4.937E+00 | 2.287E+01 | 3.797E+01 | 0.000E+00 | 0.130 |

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A,07WG4311-1      ,08/14/2006 12:22,08/10/2006 13:05,    3.246E+00,WG4311-1 WG EX
B,07WG4311-1      ,LIBD      ,08/14/2006 09:44,073L082504
C,BE-7      ,NO ,    1.874E-02,    2.057E+01,    3.463E+01,,    0.001
C,NA-24     ,NO ,   -8.443E+01,    1.989E+02,    2.886E+02,,   -0.293
C,K-40      ,NO ,   -3.948E+00,    4.223E+01,    8.408E+01,,   -0.047
C,CR-51     ,NO ,   -1.861E+01,    2.440E+01,    3.732E+01,,   -0.499
C,MN-54     ,NO ,   -1.587E+00,    2.957E+00,    4.478E+00,,   -0.354
C,CO-57     ,NO ,   -1.592E-02,    2.713E+00,    4.317E+00,,   -0.004
C,CO-58     ,NO ,    1.274E+00,    2.758E+00,    4.744E+00,,    0.269
C,FE-59     ,NO ,   -1.775E-01,    5.488E+00,    9.090E+00,,   -0.020
C,CO-60     ,NO ,   -2.681E-01,    2.435E+00,    3.906E+00,,   -0.069
C,ZN-65     ,NO ,    3.584E+00,    6.371E+00,    1.014E+01,,    0.354
C,SE-75     ,NO ,   -1.283E+00,    3.291E+00,    5.264E+00,,   -0.244
C,SR-85     ,NO ,   -5.385E+00,    3.654E+00,    5.530E+00,,   -0.974
C,Y-88      ,NO ,   -2.555E-01,    2.671E+00,    4.341E+00,,   -0.059
C,NB-94     ,NO ,   -1.915E+00,    2.824E+00,    4.295E+00,,   -0.446
C,NB-95     ,NO ,   -1.195E+00,    2.742E+00,    4.229E+00,,   -0.283
C,ZR-95     ,NO ,    1.996E+00,    4.497E+00,    7.770E+00,,    0.257
C,MO-99     ,NO ,   -6.089E-02,    5.146E+01,    8.419E+01,,   -0.001
C,RU-103    ,NO ,    2.189E+00,    2.771E+00,    4.979E+00,,    0.440
C,RU-106    ,NO ,   -1.873E+00,    2.251E+01,    3.690E+01,,   -0.051
C,AG-110m   ,NO ,    1.981E+00,    2.294E+00,    4.186E+00,,    0.473
C,SN-113    ,NO ,    9.567E-03,    3.522E+00,    5.680E+00,,    0.002
C,SB-124    ,NO ,    3.736E-01,    2.874E+00,    4.569E+00,,    0.082
C,SB-125    ,NO ,   -5.878E+00,    7.666E+00,    1.129E+01,,   -0.520
C,TE-129M   ,NO ,   -1.380E+01,    3.545E+01,    5.439E+01,,   -0.254
C,I-131     ,NO ,    9.755E-01,    3.584E+00,    5.951E+00,,    0.164
C,BA-133    ,NO ,    8.008E-01,    4.233E+00,    6.138E+00,,    0.130
C,CS-134    ,NO ,   -2.019E+00,    2.921E+00,    3.745E+00,,   -0.539
C,CS-136    ,NO ,    2.487E+00,    3.350E+00,    5.932E+00,,    0.419
C,CS-137    ,NO ,   -3.610E+00,    2.749E+00,    3.757E+00,,   -0.961
C,CE-139    ,NO ,   -2.006E+00,    2.461E+00,    3.956E+00,,   -0.507
C,BA-140    ,NO ,    4.325E+00,    1.110E+01,    1.928E+01,,    0.224
C,LA-140    ,NO ,   -7.236E-01,    3.538E+00,    5.467E+00,,   -0.132
C,CE-141    ,NO ,    2.382E+00,    5.253E+00,    8.137E+00,,    0.293
C,CE-144    ,NO ,    4.205E+00,    2.122E+01,    3.406E+01,,    0.123
C,EU-152    ,NO ,   -6.851E+00,    8.160E+00,    1.227E+01,,   -0.558
C,EU-154    ,NO ,   -3.145E+00,    5.562E+00,    8.521E+00,,   -0.369
C,RA-226    ,NO ,    1.107E+01,    6.582E+01,    1.172E+02,,    0.094
C,AC-228    ,NO ,   -1.127E+00,    1.111E+01,    1.957E+01,,   -0.058
C,TH-228    ,NO ,    8.359E-01,    5.294E+00,    9.329E+00,,    0.090
C,TH-232    ,NO ,   -1.126E+00,    1.109E+01,    1.955E+01,,   -0.058
C,U-235     ,NO ,    9.904E+00,    2.466E+01,    3.608E+01,,    0.274
C,U-238     ,NO ,    7.973E+01,    3.004E+02,    5.201E+02,,    0.153
C,AM-241    ,NO ,    4.937E+00,    2.287E+01,    3.797E+01,,    0.130

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Sec. Review: 105 Analyst: LIMS: N

VAX/VMS Teledyne Brown Eng. Laboratory Gamma Report: 11-AUG-2006 17:05:20.63
TBE11 P-20610B HpGe ***** Aquisition Date/Time: 11-AUG-2006 14:54:32.29

LIMS No., Customer Name, Client ID: L29557-1 WG EX/DRES

Sample ID : 11L29557-1 Smple Date: 10-AUG-2006 13:05:00.
Sample Type : WG Geometry : 113L082304
Quantity : 3.24570E+00 L BKGFILE : 11BG072806MT
Start Channel : 40 Energy Tol : 1.00000 Real Time : 0 02:10:46.61
End Channel : 4090 Pk Srch Sens: 5.00000 Live time : 0 02:10:42.88
MDA Constant : 0.00 Library Used: LIBD

| Pk | It | Energy | Area | Bkgnd | FWHM | Channel | %Eff | Cts/Sec | %Err | Fit |
|----|----|----------|------|-------|------|---------|----------|----------|-------|-----|
| 1 | 0 | 66.24 | 109 | 578 | 1.49 | 131.88 | 6.84E-01 | 1.40E-02 | 39.1 | |
| 2 | 0 | 74.68* | 54 | 635 | 0.93 | 148.83 | 9.69E-01 | 6.88E-03 | 81.4 | |
| 3 | 0 | 77.12 | 170 | 577 | 0.98 | 153.72 | 1.05E+00 | 2.17E-02 | 24.7 | |
| 4 | 0 | 86.82 | 79 | 349 | 1.10 | 173.18 | 1.33E+00 | 1.01E-02 | 39.2 | |
| 5 | 0 | 241.13 | 304 | 428 | 1.36 | 482.72 | 1.57E+00 | 3.88E-02 | 15.9 | |
| 6 | 0 | 295.09* | 510 | 229 | 1.51 | 590.91 | 1.37E+00 | 6.50E-02 | 7.6 | |
| 7 | 0 | 351.76* | 901 | 161 | 1.36 | 704.54 | 1.20E+00 | 1.15E-01 | 4.4 | |
| 8 | 0 | 609.04* | 838 | 75 | 1.62 | 1220.01 | 7.90E-01 | 1.07E-01 | 4.1 | |
| 9 | 0 | 665.38 | 25 | 46 | 1.12 | 1332.80 | 7.37E-01 | 3.12E-03 | 51.3 | |
| 10 | 0 | 768.48 | 54 | 44 | 1.42 | 1539.19 | 6.58E-01 | 6.93E-03 | 25.1 | |
| 11 | 0 | 935.78 | 37 | 77 | 1.03 | 1873.90 | 5.62E-01 | 4.76E-03 | 59.8 | |
| 12 | 0 | 1120.27* | 155 | 36 | 1.69 | 2242.77 | 4.86E-01 | 1.98E-02 | 11.5 | |
| 13 | 0 | 1238.76* | 65 | 54 | 1.74 | 2479.54 | 4.48E-01 | 8.35E-03 | 30.5 | |
| 14 | 0 | 1378.81* | 37 | 47 | 1.99 | 2759.25 | 4.10E-01 | 4.68E-03 | 49.9 | |
| 15 | 0 | 1407.98 | 26 | 27 | 0.89 | 2817.48 | 4.04E-01 | 3.31E-03 | 43.1 | |
| 16 | 0 | 1460.61* | 11 | 21 | 2.08 | 2922.55 | 3.92E-01 | 1.44E-03 | 112.2 | |
| 17 | 0 | 1509.84 | 30 | 15 | 1.15 | 3020.80 | 3.82E-01 | 3.79E-03 | 34.7 | |
| 18 | 0 | 1728.30 | 24 | 16 | 1.56 | 3456.60 | 3.44E-01 | 3.03E-03 | 42.4 | |
| 19 | 0 | 1762.61* | 130 | 15 | 1.47 | 3525.01 | 3.39E-01 | 1.65E-02 | 11.3 | |

Flag: "*" = Peak area was modified by background subtraction

Nuclide Line Activity Report

Nuclide Type: natural

| Nuclide | Energy | Area | %Abn | %Eff | Uncorrected pCi/L | Decay Corr pCi/L | 2-Sigma %Error |
|---------|---------|------|--------|-----------|----------------------|---------------------|-------------------|
| K-40 | 1460.81 | 11 | 10.67* | 3.919E-01 | 2.866E+01 | 2.866E+01 | 224.35 |

Flag: "*" = Keyline

Summary of Nuclide Activity

Page : 2

Sample ID : 11L29557-1

Acquisition date : 11-AUG-2006 14:54:32

| | | |
|---|----|--------|
| Total number of lines in spectrum | 19 | |
| Number of unidentified lines | 16 | |
| Number of lines tentatively identified by NID | 3 | 15.79% |

Nuclide Type : natural

| Nuclide | Hlife | Decay | Uncorrected pCi/L | Decay Corr pCi/L | Decay Corr 2-Sigma Error | 2-Sigma %Error | Flags |
|------------------|-----------|-------|----------------------|---------------------|-----------------------------|-------------------|-------|
| K-40 | 1.28E+09Y | 1.00 | 2.866E+01 | 2.866E+01 | 6.430E+01 | 224.35 | |
| Total Activity : | | | 2.866E+01 | 2.866E+01 | | | |

| | | |
|------------------------|-----------|-----------|
| Grand Total Activity : | 2.866E+01 | 2.866E+01 |
|------------------------|-----------|-----------|

Flags: "K" = Keyline not found
 "E" = Manually edited

"M" = Manually accepted
 "A" = Nuclide specific abn. limit

Unidentified Energy Lines
Sample ID : 11L29557-1

Page : 3
Acquisition date : 11-AUG-2006 14:54:32

| It | Energy | Area | Bkgnd | FWHM | Channel | Left | Pw | Cts/Sec | %Err | %Eff | Flags |
|----|---------|------|-------|------|---------|------|----|----------|------|----------|-------|
| 0 | 66.24 | 109 | 578 | 1.49 | 131.88 | 129 | 8 | 1.40E-02 | 78.3 | 6.84E-01 | |
| 0 | 74.68 | 54 | 635 | 0.93 | 148.83 | 145 | 7 | 6.88E-03 | **** | 9.69E-01 | |
| 0 | 77.12 | 170 | 577 | 0.98 | 153.72 | 152 | 7 | 2.17E-02 | 49.3 | 1.05E+00 | |
| 0 | 86.82 | 79 | 349 | 1.10 | 173.18 | 171 | 6 | 1.01E-02 | 78.3 | 1.33E+00 | |
| 0 | 241.13 | 304 | 428 | 1.36 | 482.72 | 475 | 15 | 3.88E-02 | 31.8 | 1.57E+00 | T |
| 0 | 295.09 | 510 | 229 | 1.51 | 590.91 | 585 | 13 | 6.50E-02 | 15.2 | 1.37E+00 | |
| 0 | 351.76 | 901 | 161 | 1.36 | 704.54 | 698 | 12 | 1.15E-01 | 8.8 | 1.20E+00 | |
| 0 | 609.04 | 838 | 75 | 1.62 | 1220.01 | 1212 | 14 | 1.07E-01 | 8.3 | 7.90E-01 | |
| 0 | 665.38 | 25 | 46 | 1.12 | 1332.80 | 1329 | 8 | 3.12E-03 | **** | 7.37E-01 | |
| 0 | 768.48 | 54 | 44 | 1.42 | 1539.19 | 1535 | 8 | 6.93E-03 | 50.2 | 6.58E-01 | |
| 0 | 935.78 | 37 | 77 | 1.03 | 1873.90 | 1864 | 19 | 4.76E-03 | **** | 5.62E-01 | |
| 0 | 1120.27 | 155 | 36 | 1.69 | 2242.77 | 2236 | 13 | 1.98E-02 | 23.0 | 4.86E-01 | |
| 0 | 1238.76 | 65 | 54 | 1.74 | 2479.54 | 2470 | 20 | 8.35E-03 | 61.1 | 4.48E-01 | |
| 0 | 1378.81 | 37 | 47 | 1.99 | 2759.25 | 2748 | 21 | 4.68E-03 | 99.8 | 4.10E-01 | |
| 0 | 1407.98 | 26 | 27 | 0.89 | 2817.48 | 2810 | 12 | 3.31E-03 | 86.2 | 4.04E-01 | T |
| 0 | 1509.84 | 30 | 15 | 1.15 | 3020.80 | 3013 | 14 | 3.79E-03 | 69.4 | 3.82E-01 | |
| 0 | 1728.30 | 24 | 16 | 1.56 | 3456.60 | 3449 | 14 | 3.03E-03 | 84.8 | 3.44E-01 | |
| 0 | 1762.61 | 130 | 15 | 1.47 | 3525.01 | 3518 | 15 | 1.65E-02 | 22.7 | 3.39E-01 | |

Flags: "T" = Tentatively associated

Summary of Nuclide Activity

| | |
|---|---------------|
| Total number of lines in spectrum | 19 |
| Number of unidentified lines | 16 |
| Number of lines tentatively identified by NID | 3 15.79% |

Nuclide Type : natural

| Nuclide | Hlife | Decay | Wtd Mean Uncorrected pCi/L | Wtd Mean Decay Corr pCi/L | Decay Corr 2-Sigma Error | 2-Sigma %Error | Flags |
|------------------|-----------|-------|----------------------------------|---------------------------------|-----------------------------|-------------------|-------|
| K-40 | 1.28E+09Y | 1.00 | 2.866E+01 | 2.866E+01 | 6.430E+01 | 224.35 | |
| Total Activity : | | | 2.866E+01 | 2.866E+01 | | | |

Grand Total Activity : 2.866E+01 2.866E+01

Flags: "K" = Keyline not found "M" = Manually accepted
"E" = Manually edited "A" = Nuclide specific abn. limit

Interference Report

No interference correction performed

Combined Activity-MDA Report

---- Identified Nuclides ----

| Nuclide | Activity (pCi/L) | Act error | MDA (pCi/L) | MDA error | Act/MDA |
|---------|---------------------|-----------|----------------|-----------|---------|
|---------|---------------------|-----------|----------------|-----------|---------|

---- Non-Identified Nuclides ----

| Nuclide | Key-Line Activity (pCi/L) | K.L. Ided | Act error | MDA (pCi/L) | MDA error | Act/MDA |
|---------|---------------------------------|--------------|-----------|----------------|-----------|---------|
| BE-7 | 1.551E+01 | | 3.016E+01 | 5.227E+01 | 0.000E+00 | 0.297 |
| NA-24 | -3.691E+00 | | 1.444E+01 | 2.030E+01 | 0.000E+00 | -0.182 |
| CR-51 | 9.105E+00 | | 3.059E+01 | 5.033E+01 | 0.000E+00 | 0.181 |
| MN-54 | -1.522E+00 | | 3.456E+00 | 5.356E+00 | 0.000E+00 | -0.284 |
| CO-57 | -1.296E+00 | | 3.517E+00 | 5.823E+00 | 0.000E+00 | -0.222 |
| CO-58 | -1.390E-01 | | 3.470E+00 | 5.629E+00 | 0.000E+00 | -0.025 |
| FE-59 | 2.141E+00 | | 6.742E+00 | 1.166E+01 | 0.000E+00 | 0.184 |
| CO-60 | -4.992E-02 | | 3.567E+00 | 5.884E+00 | 0.000E+00 | -0.008 |
| ZN-65 | -1.380E+00 | | 8.289E+00 | 1.161E+01 | 0.000E+00 | -0.119 |
| SE-75 | 4.744E+00 | | 4.798E+00 | 8.218E+00 | 0.000E+00 | 0.577 |
| SR-85 | -6.834E+00 | | 4.024E+00 | 6.051E+00 | 0.000E+00 | -1.129 |
| Y-88 | -2.779E-01 | | 3.322E+00 | 5.271E+00 | 0.000E+00 | -0.053 |
| NB-94 | -2.088E-01 | | 3.390E+00 | 5.539E+00 | 0.000E+00 | -0.038 |
| NB-95 | 6.191E+00 | | 4.100E+00 | 6.881E+00 | 0.000E+00 | 0.900 |
| ZR-95 | 9.236E-01 | | 5.835E+00 | 9.697E+00 | 0.000E+00 | 0.095 |
| MO-99 | -8.300E-01 | | 3.401E+01 | 5.557E+01 | 0.000E+00 | -0.015 |
| RU-103 | -2.354E+00 | | 3.328E+00 | 5.271E+00 | 0.000E+00 | -0.447 |
| RU-106 | 6.092E+00 | | 3.158E+01 | 5.309E+01 | 0.000E+00 | 0.115 |
| AG-110m | 1.351E+00 | | 3.246E+00 | 5.554E+00 | 0.000E+00 | 0.243 |
| SN-113 | -1.082E+00 | | 4.650E+00 | 7.321E+00 | 0.000E+00 | -0.148 |
| SB-124 | 4.250E+00 | | 3.775E+00 | 6.106E+00 | 0.000E+00 | 0.696 |
| SB-125 | -2.539E+00 | | 1.043E+01 | 1.731E+01 | 0.000E+00 | -0.147 |
| TE-129M | 2.472E+01 | | 4.113E+01 | 7.170E+01 | 0.000E+00 | 0.345 |
| I-131 | -2.345E-01 | | 3.924E+00 | 6.279E+00 | 0.000E+00 | -0.037 |
| BA-133 | -2.161E+00 | | 5.311E+00 | 7.154E+00 | 0.000E+00 | -0.302 |
| CS-134 | -2.336E+00 | | 4.180E+00 | 5.641E+00 | 0.000E+00 | -0.414 |
| CS-136 | 1.082E+00 | | 3.479E+00 | 5.850E+00 | 0.000E+00 | 0.185 |
| CS-137 | 1.728E+00 | | 3.815E+00 | 5.798E+00 | 0.000E+00 | 0.298 |
| CE-139 | -1.320E+00 | | 3.696E+00 | 6.057E+00 | 0.000E+00 | -0.218 |
| BA-140 | 4.496E+00 | | 1.247E+01 | 2.137E+01 | 0.000E+00 | 0.210 |
| LA-140 | 1.008E+00 | | 4.530E+00 | 7.632E+00 | 0.000E+00 | 0.132 |
| CE-141 | 3.422E+00 | | 6.411E+00 | 1.089E+01 | 0.000E+00 | 0.314 |
| CE-144 | -5.312E+00 | | 2.784E+01 | 4.627E+01 | 0.000E+00 | -0.115 |
| EU-152 | -2.807E+00 | | 1.257E+01 | 1.926E+01 | 0.000E+00 | -0.146 |
| EU-154 | 1.897E+00 | | 7.440E+00 | 1.259E+01 | 0.000E+00 | 0.151 |
| RA-226 | -1.345E+02 | | 9.357E+01 | 1.479E+02 | 0.000E+00 | -0.909 |
| AC-228 | 2.480E-02 | | 1.368E+01 | 2.378E+01 | 0.000E+00 | 0.001 |
| TH-228 | 4.212E+00 | | 7.831E+00 | 1.214E+01 | 0.000E+00 | 0.347 |
| TH-232 | 2.479E-02 | | 1.367E+01 | 2.377E+01 | 0.000E+00 | 0.001 |
| U-235 | -5.107E+00 | | 2.965E+01 | 4.920E+01 | 0.000E+00 | -0.104 |
| U-238 | 1.923E+01 | | 4.461E+02 | 7.204E+02 | 0.000E+00 | 0.027 |
| AM-241 | -2.608E+01 | | 4.056E+01 | 6.309E+01 | 0.000E+00 | -0.413 |

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A,11L29557-1      ,08/11/2006 17:05,08/10/2006 13:05,    3.246E+00,L29557-1 WG EX
B,11L29557-1      ,LIBD      ,08/11/2006 09:47,113L082304
C,K-40      ,YES,    2.866E+01,    6.430E+01,    5.796E+01,,    0.494
C,BE-7      ,NO ,    1.551E+01,    3.016E+01,    5.227E+01,,    0.297
C,NA-24     ,NO ,   -3.691E+00,    1.444E+01,    2.030E+01,,   -0.182
C,CR-51     ,NO ,    9.105E+00,    3.059E+01,    5.033E+01,,    0.181
C,MN-54     ,NO ,   -1.522E+00,    3.456E+00,    5.356E+00,,   -0.284
C,CO-57     ,NO ,   -1.296E+00,    3.517E+00,    5.823E+00,,   -0.222
C,CO-58     ,NO ,   -1.390E-01,    3.470E+00,    5.629E+00,,   -0.025
C,FE-59     ,NO ,    2.141E+00,    6.742E+00,    1.166E+01,,    0.184
C,CO-60     ,NO ,   -4.992E-02,    3.567E+00,    5.884E+00,,   -0.008
C,ZN-65     ,NO ,   -1.380E+00,    8.289E+00,    1.161E+01,,   -0.119
C,SE-75     ,NO ,    4.744E+00,    4.798E+00,    8.218E+00,,    0.577
C,SR-85     ,NO ,   -6.834E+00,    4.024E+00,    6.051E+00,,   -1.129
C,Y-88      ,NO ,   -2.779E-01,    3.322E+00,    5.271E+00,,   -0.053
C,NB-94     ,NO ,   -2.088E-01,    3.390E+00,    5.539E+00,,   -0.038
C,NB-95     ,NO ,    6.191E+00,    4.100E+00,    6.881E+00,,    0.900
C,ZR-95     ,NO ,    9.236E-01,    5.835E+00,    9.697E+00,,    0.095
C,MO-99     ,NO ,   -8.300E-01,    3.401E+01,    5.557E+01,,   -0.015
C,RU-103    ,NO ,   -2.354E+00,    3.328E+00,    5.271E+00,,   -0.447
C,RU-106    ,NO ,    6.092E+00,    3.158E+01,    5.309E+01,,    0.115
C,AG-110m   ,NO ,    1.351E+00,    3.246E+00,    5.554E+00,,    0.243
C,SN-113    ,NO ,   -1.082E+00,    4.650E+00,    7.321E+00,,   -0.148
C,SB-124    ,NO ,    4.250E+00,    3.775E+00,    6.106E+00,,    0.696
C,SB-125    ,NO ,   -2.539E+00,    1.043E+01,    1.731E+01,,   -0.147
C,TE-129M   ,NO ,    2.472E+01,    4.113E+01,    7.170E+01,,    0.345
C,I-131     ,NO ,   -2.345E-01,    3.924E+00,    6.279E+00,,   -0.037
C,BA-133    ,NO ,   -2.161E+00,    5.311E+00,    7.154E+00,,   -0.302
C,CS-134    ,NO ,   -2.336E+00,    4.180E+00,    5.641E+00,,   -0.414
C,CS-136    ,NO ,    1.082E+00,    3.479E+00,    5.850E+00,,    0.185
C,CS-137    ,NO ,    1.728E+00,    3.815E+00,    5.798E+00,,    0.298
C,CE-139    ,NO ,   -1.320E+00,    3.696E+00,    6.057E+00,,   -0.218
C,BA-140    ,NO ,    4.496E+00,    1.247E+01,    2.137E+01,,    0.210
C,LA-140    ,NO ,    1.008E+00,    4.530E+00,    7.632E+00,,    0.132
C,CE-141    ,NO ,    3.422E+00,    6.411E+00,    1.089E+01,,    0.314
C,CE-144    ,NO ,   -5.312E+00,    2.784E+01,    4.627E+01,,   -0.115
C,EU-152    ,NO ,   -2.807E+00,    1.257E+01,    1.926E+01,,   -0.146
C,EU-154    ,NO ,    1.897E+00,    7.440E+00,    1.259E+01,,    0.151
C,RA-226    ,NO ,   -1.345E+02,    9.357E+01,    1.479E+02,,   -0.909
C,AC-228    ,NO ,    2.480E-02,    1.368E+01,    2.378E+01,,    0.001
C,TH-228    ,NO ,    4.212E+00,    7.831E+00,    1.214E+01,,    0.347
C,TH-232    ,NO ,    2.479E-02,    1.367E+01,    2.377E+01,,    0.001
C,U-235     ,NO ,   -5.107E+00,    2.965E+01,    4.920E+01,,   -0.104
C,U-238     ,NO ,    1.923E+01,    4.461E+02,    7.204E+02,,    0.027
C,AM-241    ,NO ,   -2.608E+01,    4.056E+01,    6.309E+01,,   -0.413

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Sec. Review: Analyst: LIMS: ✓

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VAX/VMS Teledyne Brown Eng. Laboratory Gamma Report: 11-AUG-2006 15:55:46.92

TBE04 P-40312B HpGe ***** Aquisition Date/Time: 11-AUG-2006 14:54:33.72

LIMS No., Customer Name, Client ID: L29557-2 WG EX/DRES

| | | | |
|---------------|-----------------|---------------|-----------------------|
| Sample ID | : 04L29557-2 | Smple Date: | 10-AUG-2006 12:10:00. |
| Sample Type | : WG | Geometry | : 043L082004 |
| Quantity | : 3.06250E+00 L | BKGFILE | : 04BG072806MT |
| Start Channel | : 90 | Energy Tol | : 1.00000 |
| End Channel | : 4090 | Real Time | : 0 01:01:01.88 |
| MDA Constant | : 0.00 | Live time | : 0 01:01:01.22 |
| | | Pk Srch Sens: | 5.00000 |
| | | Library Used: | LIBD |

| Pk | It | Energy | Area | Bkgnd | FWHM | Channel | %Eff | Cts/Sec | %Err | Fit |
|----|----|---------|------|-------|------|---------|----------|----------|-------|----------|
| 1 | 1 | 198.60* | 44 | 77 | 1.33 | 398.40 | 1.86E+00 | 1.21E-02 | 42.2 | 2.89E+00 |
| 2 | 1 | 294.80* | 19 | 52 | 1.20 | 590.93 | 1.46E+00 | 5.31E-03 | 72.9 | 9.75E-01 |
| 3 | 1 | 351.46* | 54 | 74 | 2.37 | 704.31 | 1.28E+00 | 1.47E-02 | 36.3 | 3.31E+00 |
| 4 | 1 | 583.09* | 9 | 36 | 3.95 | 1167.71 | 8.77E-01 | 2.40E-03 | 147.6 | 3.17E+00 |
| 5 | 1 | 608.99* | 38 | 27 | 1.97 | 1219.52 | 8.49E-01 | 1.04E-02 | 35.4 | 6.44E-01 |

Flag: "*" = Peak area was modified by background subtraction

Nuclide Line Activity Report

Flag: "*" = Keyline

Summary of Nuclide Activity

Page : 2

Sample ID : 04L29557-2

Acquisition date : 11-AUG-2006 14:54:33

Total number of lines in spectrum

5

Number of unidentified lines

4

Number of lines tentatively identified by NID

1

20.00%

**** There are no nuclides meeting summary criteria ****

Flags: "K" = Keyline not found

"M" = Manually accepted

"E" = Manually edited

"A" = Nuclide specific abn. limit

Unidentified Energy Lines
Sample ID : 04L29557-2

Page : 3
Acquisition date : 11-AUG-2006 14:54:33

| It | Energy | Area | Bkgnd | FWHM | Channel | Left | Pw | Cts/Sec | %Err | %Eff | Flags |
|----|--------|------|-------|------|---------|------|----|----------|------|----------|-------|
| 1 | 198.60 | 44 | 77 | 1.33 | 398.40 | 393 | 11 | 1.21E-02 | 84.4 | 1.86E+00 | |
| 1 | 294.80 | 19 | 52 | 1.20 | 590.93 | 587 | 9 | 5.31E-03 | **** | 1.46E+00 | |
| 1 | 351.46 | 54 | 74 | 2.37 | 704.31 | 700 | 15 | 1.47E-02 | 72.6 | 1.28E+00 | |
| 1 | 583.09 | 9 | 36 | 3.95 | 1167.71 | 1160 | 14 | 2.40E-03 | **** | 8.77E-01 | T |
| 1 | 608.99 | 38 | 27 | 1.97 | 1219.52 | 1215 | 15 | 1.04E-02 | 70.7 | 8.49E-01 | |

Flags: "T" = Tentatively associated

Summary of Nuclide Activity

Total number of lines in spectrum 5
Number of unidentified lines 4
Number of lines tentatively identified by NID 1 20.00%
**** There are no nuclides meeting summary criteria ****

Flags: "K" = Keyline not found "M" = Manually accepted
"E" = Manually edited "A" = Nuclide specific abn. limit

Interference Report

No interference correction performed

Combined Activity-MDA Report

---- Non-Identified Nuclides ----

| Nuclide | Key-Line Activity (pCi/L) | K.L. Ided | Act error | MDA (pCi/L) | MDA error | Act/MDA |
|---------|---------------------------------|--------------|-----------|----------------|-----------|---------|
| BE-7 | -1.952E+01 | | 2.729E+01 | 3.815E+01 | 0.000E+00 | -0.512 |
| NA-24 | -3.348E+00 | | 1.280E+01 | 1.957E+01 | 0.000E+00 | -0.171 |
| K-40 | 3.765E+01 | | 6.106E+01 | 1.312E+02 | 0.000E+00 | 0.287 |
| CR-51 | 8.515E+00 | | 3.118E+01 | 5.340E+01 | 0.000E+00 | 0.159 |
| MN-54 | -1.201E+00 | | 3.872E+00 | 5.995E+00 | 0.000E+00 | -0.200 |
| CO-57 | -8.827E-01 | | 3.171E+00 | 5.028E+00 | 0.000E+00 | -0.176 |
| CO-58 | 2.700E-02 | | 3.906E+00 | 6.454E+00 | 0.000E+00 | 0.004 |
| FE-59 | 1.123E+00 | | 7.551E+00 | 1.258E+01 | 0.000E+00 | 0.089 |
| CO-60 | 6.386E-01 | | 4.357E+00 | 8.436E+00 | 0.000E+00 | 0.076 |
| ZN-65 | -5.426E+00 | | 8.728E+00 | 1.193E+01 | 0.000E+00 | -0.455 |
| SE-75 | -7.244E-01 | | 4.758E+00 | 7.874E+00 | 0.000E+00 | -0.092 |
| SR-85 | -1.162E+01 | | 5.329E+00 | 6.367E+00 | 0.000E+00 | -1.826 |
| Y-88 | 2.607E+00 | | 2.632E+00 | 6.119E+00 | 0.000E+00 | 0.426 |
| NB-94 | -1.326E+00 | | 3.294E+00 | 5.075E+00 | 0.000E+00 | -0.261 |
| NB-95 | -1.475E+00 | | 3.643E+00 | 5.572E+00 | 0.000E+00 | -0.265 |
| ZR-95 | -5.214E+00 | | 6.666E+00 | 9.393E+00 | 0.000E+00 | -0.555 |
| MO-99 | 1.437E+01 | | 3.785E+01 | 6.690E+01 | 0.000E+00 | 0.215 |
| RU-103 | -9.562E-01 | | 3.473E+00 | 5.339E+00 | 0.000E+00 | -0.179 |
| RU-106 | 4.187E+01 | | 4.058E+01 | 7.701E+01 | 0.000E+00 | 0.544 |
| AG-110m | 5.763E-01 | | 3.911E+00 | 6.696E+00 | 0.000E+00 | 0.086 |
| SN-113 | 3.505E+00 | | 4.876E+00 | 8.722E+00 | 0.000E+00 | 0.402 |
| SB-124 | -1.505E+00 | | 4.229E+00 | 6.353E+00 | 0.000E+00 | -0.237 |
| SB-125 | -1.074E-01 | | 1.154E+01 | 1.881E+01 | 0.000E+00 | -0.006 |

| | | | | | |
|---------|------------|-----------|-----------|-----------|--------|
| TE-129M | -1.116E+01 | 4.759E+01 | 7.484E+01 | 0.000E+00 | -0.149 |
| I-131 | -3.319E+00 | 4.622E+00 | 6.982E+00 | 0.000E+00 | -0.475 |
| BA-133 | 2.579E+00 | 5.689E+00 | 8.879E+00 | 0.000E+00 | 0.290 |
| CS-134 | 1.265E+00 | 4.238E+00 | 6.594E+00 | 0.000E+00 | 0.192 |
| CS-136 | 3.761E+00 | 3.538E+00 | 7.027E+00 | 0.000E+00 | 0.535 |
| CS-137 | -7.550E-03 | 4.251E+00 | 7.116E+00 | 0.000E+00 | -0.001 |
| CE-139 | 5.883E-01 | 3.635E+00 | 5.916E+00 | 0.000E+00 | 0.099 |
| BA-140 | 4.394E+00 | 1.401E+01 | 2.369E+01 | 0.000E+00 | 0.186 |
| LA-140 | -4.834E+00 | 5.886E+00 | 7.588E+00 | 0.000E+00 | -0.637 |
| CE-141 | -3.952E+00 | 6.146E+00 | 9.351E+00 | 0.000E+00 | -0.423 |
| CE-144 | -1.532E+00 | 2.648E+01 | 4.272E+01 | 0.000E+00 | -0.036 |
| EU-152 | -4.877E+00 | 1.085E+01 | 1.691E+01 | 0.000E+00 | -0.288 |
| EU-154 | -4.006E+00 | 6.941E+00 | 1.070E+01 | 0.000E+00 | -0.375 |
| RA-226 | -5.626E+01 | 1.032E+02 | 1.639E+02 | 0.000E+00 | -0.343 |
| AC-228 | 4.050E+00 | 1.575E+01 | 2.929E+01 | 0.000E+00 | 0.138 |
| TH-228 | -5.004E+00 | 7.601E+00 | 1.308E+01 | 0.000E+00 | -0.382 |
| TH-232 | 4.049E+00 | 1.574E+01 | 2.928E+01 | 0.000E+00 | 0.138 |
| U-235 | 1.336E+00 | 2.732E+01 | 4.434E+01 | 0.000E+00 | 0.030 |
| U-238 | -1.997E+02 | 3.994E+02 | 5.656E+02 | 0.000E+00 | -0.353 |
| AM-241 | 1.991E+01 | 3.323E+01 | 5.858E+01 | 0.000E+00 | 0.340 |

A,04L29557-2 ,08/11/2006 15:55,08/10/2006 12:10, 3.063E+00,L29557-2 WG EX
 B,04L29557-2 ,LIBD ,08/11/2006 09:46,043L082004
 C,BE-7 ,NO , -1.952E+01, 2.729E+01, 3.815E+01,, -0.512
 C,NA-24 ,NO , -3.348E+00, 1.280E+01, 1.957E+01,, -0.171
 C,K-40 ,NO , 3.765E+01, 6.106E+01, 1.312E+02,, 0.287
 C,CR-51 ,NO , 8.515E+00, 3.118E+01, 5.340E+01,, 0.159
 C,MN-54 ,NO , -1.201E+00, 3.872E+00, 5.995E+00,, -0.200
 C,CO-57 ,NO , -8.827E-01, 3.171E+00, 5.028E+00,, -0.176
 C,CO-58 ,NO , 2.700E-02, 3.906E+00, 6.454E+00,, 0.004
 C,FE-59 ,NO , 1.123E+00, 7.551E+00, 1.258E+01,, 0.089
 C,CO-60 ,NO , 6.386E-01, 4.357E+00, 8.436E+00,, 0.076
 C,ZN-65 ,NO , -5.426E+00, 8.728E+00, 1.193E+01,, -0.455
 C,SE-75 ,NO , -7.244E-01, 4.758E+00, 7.874E+00,, -0.092
 C,SR-85 ,NO , -1.162E+01, 5.329E+00, 6.367E+00,, -1.826
 C,Y-88 ,NO , 2.607E+00, 2.632E+00, 6.119E+00,, 0.426
 C,NB-94 ,NO , -1.326E+00, 3.294E+00, 5.075E+00,, -0.261
 C,NB-95 ,NO , -1.475E+00, 3.643E+00, 5.572E+00,, -0.265
 C,ZR-95 ,NO , -5.214E+00, 6.666E+00, 9.393E+00,, -0.555
 C,MO-99 ,NO , 1.437E+01, 3.785E+01, 6.690E+01,, 0.215
 C,RU-103 ,NO , -9.562E-01, 3.473E+00, 5.339E+00,, -0.179
 C,RU-106 ,NO , 4.187E+01, 4.058E+01, 7.701E+01,, 0.544
 C,AG-110m ,NO , 5.763E-01, 3.911E+00, 6.696E+00,, 0.086
 C,SN-113 ,NO , 3.505E+00, 4.876E+00, 8.722E+00,, 0.402
 C,SB-124 ,NO , -1.505E+00, 4.229E+00, 6.353E+00,, -0.237
 C,SB-125 ,NO , -1.074E-01, 1.154E+01, 1.881E+01,, -0.006
 C,TE-129M ,NO , -1.116E+01, 4.759E+01, 7.484E+01,, -0.149
 C,I-131 ,NO , -3.319E+00, 4.622E+00, 6.982E+00,, -0.475
 C,BA-133 ,NO , 2.579E+00, 5.689E+00, 8.879E+00,, 0.290
 C,CS-134 ,NO , 1.265E+00, 4.238E+00, 6.594E+00,, 0.192
 C,CS-136 ,NO , 3.761E+00, 3.538E+00, 7.027E+00,, 0.535
 C,CS-137 ,NO , -7.550E-03, 4.251E+00, 7.116E+00,, -0.001
 C,CE-139 ,NO , 5.883E-01, 3.635E+00, 5.916E+00,, 0.099
 C,BA-140 ,NO , 4.394E+00, 1.401E+01, 2.369E+01,, 0.186
 C,LA-140 ,NO , -4.834E+00, 5.886E+00, 7.588E+00,, -0.637
 C,CE-141 ,NO , -3.952E+00, 6.146E+00, 9.351E+00,, -0.423
 C,CE-144 ,NO , -1.532E+00, 2.648E+01, 4.272E+01,, -0.036
 C,EU-152 ,NO , -4.877E+00, 1.085E+01, 1.691E+01,, -0.288
 C,EU-154 ,NO , -4.006E+00, 6.941E+00, 1.070E+01,, -0.375
 C,RA-226 ,NO , -5.626E+01, 1.032E+02, 1.639E+02,, -0.343
 C,AC-228 ,NO , 4.050E+00, 1.575E+01, 2.929E+01,, 0.138
 C,TH-228 ,NO , -5.004E+00, 7.601E+00, 1.308E+01,, -0.382
 C,TH-232 ,NO , 4.049E+00, 1.574E+01, 2.928E+01,, 0.138
 C,U-235 ,NO , 1.336E+00, 2.732E+01, 4.434E+01,, 0.030
 C,U-238 ,NO , -1.997E+02, 3.994E+02, 5.656E+02,, -0.353
 C,AM-241 ,NO , 1.991E+01, 3.323E+01, 5.858E+01,, 0.340

Sec. Review: Analyst: LIMS:

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VAX/VMS Teledyne Brown Eng. Laboratory Gamma Report: 14-AUG-2006 13:12:51.33

TBE23 03017322 HpGe ***** Aquisition Date/Time: 11-AUG-2006 14:51:59.00

LIMS No., Customer Name, Client ID: L29557-3 WG EX/DRES

| | | | |
|---------------|-----------------|---------------|-----------------------|
| Sample ID | : 23L29557-3 | Smple Date: | 10-AUG-2006 14:20:00. |
| Sample Type | : WG | Geometry | : 231L082404 |
| Quantity | : 1.00250E+00 L | BKGFILE | : 23BG072806MT |
| Start Channel | : 50 | Energy Tol | : 1.00000 |
| End Channel | : 4090 | Pk Srch Sens: | 5.00000 |
| MDA Constant | : 0.00 | Library Used: | LIBD |
| | | Real Time | : 1 00:21:30.88 |
| | | Live time | : 1 00:20:34.34 |

| Pk | It | Energy | Area | Bkgnd | FWHM | Channel | %Eff | Cts/Sec | %Err | Fit |
|----|----|----------|------|-------|------|---------|----------|----------|-------|----------|
| 1 | 9 | 35.37* | 190 | 900 | 2.52 | 71.23 | 1.93E-01 | 2.17E-03 | 58.2 | 1.54E+01 |
| 2 | 9 | 40.54 | 330 | 1701 | 1.97 | 81.55 | 3.80E-01 | 3.76E-03 | 21.4 | |
| 3 | 1 | 63.29* | 84 | 1880 | 1.22 | 127.00 | 1.68E+00 | 9.56E-04 | 113.5 | 2.14E+00 |
| 4 | 1 | 66.19 | 309 | 1849 | 1.22 | 132.78 | 1.85E+00 | 3.52E-03 | 23.9 | |
| 5 | 0 | 77.00* | 88 | 1646 | 1.37 | 154.39 | 2.43E+00 | 9.99E-04 | 85.4 | |
| 6 | 0 | 139.80* | 281 | 2665 | 1.14 | 279.84 | 3.59E+00 | 3.20E-03 | 37.3 | |
| 7 | 0 | 198.03 | 398 | 2068 | 1.80 | 396.19 | 3.23E+00 | 4.54E-03 | 21.2 | |
| 8 | 0 | 238.38* | 75 | 1730 | 1.19 | 476.81 | 2.89E+00 | 8.57E-04 | 121.9 | |
| 9 | 0 | 241.57 | 190 | 1306 | 1.13 | 483.18 | 2.87E+00 | 2.17E-03 | 32.4 | |
| 10 | 0 | 295.12* | 290 | 1474 | 1.01 | 590.20 | 2.47E+00 | 3.31E-03 | 30.0 | |
| 11 | 0 | 351.77* | 133 | 1065 | 1.26 | 703.43 | 2.14E+00 | 1.52E-03 | 57.0 | |
| 12 | 0 | 569.98* | 63 | 700 | 1.21 | 1139.67 | 1.43E+00 | 7.24E-04 | 102.0 | |
| 13 | 0 | 583.01* | 63 | 533 | 1.85 | 1165.72 | 1.40E+00 | 7.15E-04 | 90.5 | |
| 14 | 0 | 595.88 | 158 | 571 | 0.98 | 1191.45 | 1.38E+00 | 1.80E-03 | 29.4 | |
| 15 | 0 | 609.08* | 114 | 581 | 1.25 | 1217.84 | 1.35E+00 | 1.30E-03 | 55.5 | |
| 16 | 0 | 726.98* | 30 | 263 | 0.86 | 1453.64 | 1.18E+00 | 3.41E-04 | 120.8 | |
| 17 | 0 | 910.97* | 35 | 300 | 1.45 | 1821.72 | 9.93E-01 | 4.05E-04 | 121.9 | |
| 18 | 0 | 969.34* | 66 | 246 | 1.68 | 1938.52 | 9.48E-01 | 7.52E-04 | 66.1 | |
| 19 | 0 | 1120.36* | 93 | 286 | 1.33 | 2240.78 | 8.54E-01 | 1.06E-03 | 51.0 | |

Flag: "*" = Peak area was modified by background subtraction

Nuclide Line Activity Report

Nuclide Type: natural

| Nuclide | Energy | Area | %Abn | %Eff | Uncorrected pCi/L | Decay Corr pCi/L | 2-Sigma %Error |
|---------|--------|-------|--------|-----------|----------------------|---------------------|-------------------|
| AC-228 | 835.50 | ----- | 1.75 | 1.059E+00 | ----- | Line Not Found | ----- |
| | 911.07 | 35 | 27.70* | 9.926E-01 | 3.971E+00 | 3.973E+00 | 243.90 |
| TH-228 | 238.63 | 75 | 44.60* | 2.891E+00 | 1.791E+00 | 1.794E+00 | 243.81 |
| | 240.98 | 190 | 3.95 | 2.865E+00 | 5.167E+01 | 5.175E+01 | 64.74 |
| TH-232 | 583.14 | 63 | 30.25 | 1.403E+00 | 4.541E+00 | 4.541E+00 | 180.94 |
| | 911.07 | 35 | 27.70* | 9.926E-01 | 3.971E+00 | 3.971E+00 | 243.90 |
| | 969.11 | 66 | 16.60 | 9.482E-01 | 1.287E+01 | 1.287E+01 | 132.20 |

Flag: "*" = Keyline

Summary of Nuclide Activity

Page : 2

Sample ID : 23L29557-3

Acquisition date : 11-AUG-2006 14:51:59

| | | |
|---|----|--------|
| Total number of lines in spectrum | 19 | |
| Number of unidentified lines | 14 | |
| Number of lines tentatively identified by NID | 5 | 26.32% |

Nuclide Type : natural

| Nuclide | Hlife | Decay | Uncorrected pCi/L | Decay Corr pCi/L | Decay Corr 2-Sigma Error | 2-Sigma %Error | Flags |
|------------------|-----------|-------|----------------------|---------------------|-----------------------------|-------------------|-------|
| AC-228 | 5.75Y | 1.00 | 3.971E+00 | 3.973E+00 | 9.691E+00 | 243.90 | |
| TH-228 | 1.91Y | 1.00 | 1.791E+00 | 1.794E+00 | 4.374E+00 | 243.81 | |
| TH-232 | 1.41E+10Y | 1.00 | 3.971E+00 | 3.971E+00 | 9.686E+00 | 243.90 | |
| Total Activity : | | | 9.734E+00 | 9.739E+00 | | | |

| | | |
|------------------------|-----------|-----------|
| Grand Total Activity : | 9.734E+00 | 9.739E+00 |
|------------------------|-----------|-----------|

Flags: "K" = Keyline not found
 "E" = Manually edited

"M" = Manually accepted
 "A" = Nuclide specific abn. limit

Unidentified Energy Lines

Page : 3

Sample ID : 23L29557-3

Acquisition date : 11-AUG-2006 14:51:59

| It | Energy | Area | Bkgnd | FWHM | Channel | Left | Pw | Cts/Sec | %Err | %Eff | Flags |
|----|---------|------|-------|------|---------|------|----|----------|------|----------|-------|
| 9 | 35.37 | 190 | 900 | 2.52 | 71.23 | 64 | 23 | 2.17E-03 | **** | 1.93E-01 | |
| 9 | 40.54 | 330 | 1701 | 1.97 | 81.55 | 64 | 23 | 3.76E-03 | 42.9 | 3.80E-01 | |
| 1 | 63.29 | 84 | 1880 | 1.22 | 127.00 | 122 | 15 | 9.56E-04 | **** | 1.68E+00 | |
| 1 | 66.19 | 309 | 1849 | 1.22 | 132.78 | 122 | 15 | 3.52E-03 | 47.8 | 1.85E+00 | |
| 0 | 77.00 | 88 | 1646 | 1.37 | 154.39 | 152 | 6 | 9.99E-04 | **** | 2.43E+00 | |
| 0 | 139.80 | 281 | 2665 | 1.14 | 279.84 | 276 | 9 | 3.20E-03 | 74.6 | 3.59E+00 | |
| 0 | 198.03 | 398 | 2068 | 1.80 | 396.19 | 392 | 9 | 4.54E-03 | 42.4 | 3.23E+00 | |
| 0 | 295.12 | 290 | 1474 | 1.01 | 590.20 | 585 | 11 | 3.31E-03 | 60.0 | 2.47E+00 | |
| 0 | 351.77 | 133 | 1065 | 1.26 | 703.43 | 699 | 9 | 1.52E-03 | **** | 2.14E+00 | |
| 0 | 569.98 | 63 | 700 | 1.21 | 1139.67 | 1133 | 13 | 7.24E-04 | **** | 1.43E+00 | |
| 0 | 595.88 | 158 | 571 | 0.98 | 1191.45 | 1187 | 10 | 1.80E-03 | 58.7 | 1.38E+00 | |
| 0 | 609.08 | 114 | 581 | 1.25 | 1217.84 | 1213 | 10 | 1.30E-03 | **** | 1.35E+00 | |
| 0 | 726.98 | 30 | 263 | 0.86 | 1453.64 | 1451 | 8 | 3.41E-04 | **** | 1.18E+00 | |
| 0 | 1120.36 | 93 | 286 | 1.33 | 2240.78 | 2233 | 16 | 1.06E-03 | **** | 8.54E-01 | |

Flags: "T" = Tentatively associated

Summary of Nuclide Activity

| | | |
|---|----|--------|
| Total number of lines in spectrum | 19 | |
| Number of unidentified lines | 14 | |
| Number of lines tentatively identified by NID | 5 | 26.32% |

Nuclide Type : natural

| Nuclide | Hlife | Decay | Wtd Mean | Wtd Mean | Decay Corr | 2-Sigma | Error | 2-Sigma | %Error | Flags |
|------------------|-----------|-------|-------------|------------|------------|---------|-------|---------|--------|-------|
| | | | Uncorrected | Decay Corr | | | | | | |
| | | | pCi/L | pCi/L | | | | | | |
| TH-228 | 1.91Y | 1.00 | 2.627E+00 | 2.631E+00 | 4.338E+00 | 164.84 | | | | |
| TH-232 | 1.41E+10Y | 1.00 | 5.326E+00 | 5.326E+00 | 5.880E+00 | 110.41 | | | | |
| Total Activity : | | | 7.953E+00 | 7.957E+00 | | | | | | |

Grand Total Activity : 7.953E+00 7.957E+00

Flags: "K" = Keyline not found "M" = Manually accepted
 "E" = Manually edited "A" = Nuclide specific abn. limit

Interference Report

| Interfering | | Interfered | |
|-------------|--------|------------|--------|
| Nuclide | Line | Nuclide | Line |
| TH-232 | 911.07 | AC-228 | 911.07 |

Combined Activity-MDA Report

---- Identified Nuclides ----

| Nuclide | Activity (pCi/L) | Act error | MDA (pCi/L) | MDA error | Act/MDA |
|---------|---------------------|-----------|----------------|-----------|---------|
| TH-228 | 2.631E+00 | 4.338E+00 | 4.259E+00 | 0.000E+00 | 0.618 |

| | | | | | |
|--------|-----------|-----------|-----------|-----------|-------|
| TH-232 | 5.326E+00 | 5.880E+00 | 8.676E+00 | 0.000E+00 | 0.614 |
|--------|-----------|-----------|-----------|-----------|-------|

---- Non-Identified Nuclides ----

| Nuclide | Key-Line Activity (pCi/L) | K.L. Ided | Act error | MDA (pCi/L) | MDA error | Act/MDA |
|---------|---------------------------------|--------------|-----------|----------------|-----------|---------|
| BE-7 | 4.918E+00 | | 1.235E+01 | 2.088E+01 | 0.000E+00 | 0.236 |
| NA-24 | -3.268E+00 | | 7.029E+00 | 1.179E+01 | 0.000E+00 | -0.277 |
| K-40 | -3.756E+01 | | 3.558E+01 | 5.953E+01 | 0.000E+00 | -0.631 |
| CR-51 | 1.384E+01 | | 1.216E+01 | 2.100E+01 | 0.000E+00 | 0.659 |
| MN-54 | -9.918E-02 | | 1.423E+00 | 2.467E+00 | 0.000E+00 | -0.040 |
| CO-57 | 9.517E-01 | | 1.378E+00 | 2.231E+00 | 0.000E+00 | 0.427 |
| CO-58 | -6.698E-01 | | 1.344E+00 | 2.299E+00 | 0.000E+00 | -0.291 |
| FE-59 | -3.221E-01 | | 2.734E+00 | 4.691E+00 | 0.000E+00 | -0.069 |
| CO-60 | 4.499E-01 | | 1.501E+00 | 2.619E+00 | 0.000E+00 | 0.172 |
| ZN-65 | 9.623E-01 | | 3.266E+00 | 4.994E+00 | 0.000E+00 | 0.193 |
| SE-75 | 1.071E+00 | | 1.927E+00 | 3.293E+00 | 0.000E+00 | 0.325 |
| SR-85 | -1.658E+01 | | 2.082E+00 | 2.839E+00 | 0.000E+00 | -5.841 |
| Y-88 | -5.208E-01 | | 1.465E+00 | 2.442E+00 | 0.000E+00 | -0.213 |
| NB-94 | -2.617E-01 | | 1.471E+00 | 2.411E+00 | 0.000E+00 | -0.109 |
| NB-95 | 8.749E-01 | | 1.446E+00 | 2.444E+00 | 0.000E+00 | 0.358 |
| ZR-95 | -9.082E-01 | | 2.546E+00 | 4.139E+00 | 0.000E+00 | -0.219 |
| MO-99 | -1.436E-02 | | 1.624E+01 | 2.680E+01 | 0.000E+00 | -0.001 |
| RU-103 | -3.046E-02 | | 1.544E+00 | 2.572E+00 | 0.000E+00 | -0.012 |
| RU-106 | -1.546E+00 | | 1.389E+01 | 2.295E+01 | 0.000E+00 | -0.067 |
| AG-110m | -6.780E-02 | | 1.472E+00 | 2.433E+00 | 0.000E+00 | -0.028 |
| SN-113 | -1.968E-01 | | 1.928E+00 | 3.226E+00 | 0.000E+00 | -0.061 |
| SB-124 | -9.083E-01 | | 1.632E+00 | 2.557E+00 | 0.000E+00 | -0.355 |
| SB-125 | -2.526E+00 | | 4.161E+00 | 6.852E+00 | 0.000E+00 | -0.369 |
| TE-129M | -1.003E+01 | | 1.714E+01 | 2.817E+01 | 0.000E+00 | -0.356 |
| I-131 | 9.320E-01 | | 1.678E+00 | 2.858E+00 | 0.000E+00 | 0.326 |
| BA-133 | 1.874E+00 | | 2.266E+00 | 3.433E+00 | 0.000E+00 | 0.546 |
| CS-134 | -3.836E-03 | | 1.763E+00 | 2.549E+00 | 0.000E+00 | -0.002 |
| CS-136 | -2.323E-01 | | 1.480E+00 | 2.562E+00 | 0.000E+00 | -0.091 |
| CS-137 | -1.213E+00 | | 1.634E+00 | 2.630E+00 | 0.000E+00 | -0.461 |
| CE-139 | -7.152E-01 | | 1.361E+00 | 2.308E+00 | 0.000E+00 | -0.310 |
| BA-140 | 1.240E+00 | | 5.626E+00 | 9.438E+00 | 0.000E+00 | 0.131 |
| LA-140 | -1.726E+00 | | 1.762E+00 | 2.830E+00 | 0.000E+00 | -0.610 |
| CE-141 | 5.455E-01 | | 2.393E+00 | 3.982E+00 | 0.000E+00 | 0.137 |
| CE-144 | -1.872E+00 | | 1.006E+01 | 1.723E+01 | 0.000E+00 | -0.109 |
| EU-152 | -1.233E+00 | | 4.450E+00 | 7.441E+00 | 0.000E+00 | -0.166 |
| EU-154 | -9.004E-01 | | 2.938E+00 | 4.675E+00 | 0.000E+00 | -0.193 |
| RA-226 | -2.863E+01 | | 5.364E+01 | 6.906E+01 | 0.000E+00 | -0.415 |
| AC-228 | 3.973E+00 | | 9.691E+00 | 1.067E+01 | 0.000E+00 | 0.372 |
| U-235 | -1.312E+00 | | 1.470E+01 | 1.812E+01 | 0.000E+00 | -0.072 |
| U-238 | 1.205E+01 | | 2.240E+02 | 3.116E+02 | 0.000E+00 | 0.039 |
| AM-241 | 7.290E+00 | | 7.886E+00 | 1.168E+01 | 0.000E+00 | 0.624 |

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A,23L29557-3      ,08/14/2006 13:12,08/10/2006 14:20,    1.003E+00,L29557-3 WG EX
B,23L29557-3      ,LIBD      ,08/11/2006 09:57,231L082404
C,TH-228  ,YES,    2.631E+00,    4.338E+00,    4.259E+00,,    0.618
C,TH-232  ,YES,    5.326E+00,    5.880E+00,    8.676E+00,,    0.614
C,BE-7    ,NO ,    4.918E+00,    1.235E+01,    2.088E+01,,    0.236
C,NA-24   ,NO ,   -3.268E+00,    7.029E+00,    1.179E+01,,   -0.277
C,K-40    ,NO ,   -3.756E+01,    3.558E+01,    5.953E+01,,   -0.631
C,CR-51   ,NO ,    1.384E+01,    1.216E+01,    2.100E+01,,    0.659
C,MN-54   ,NO ,   -9.918E-02,    1.423E+00,    2.467E+00,,   -0.040
C,CO-57   ,NO ,    9.517E-01,    1.378E+00,    2.231E+00,,    0.427
C,CO-58   ,NO ,   -6.698E-01,    1.344E+00,    2.299E+00,,   -0.291
C,FE-59   ,NO ,   -3.221E-01,    2.734E+00,    4.691E+00,,   -0.069
C,CO-60   ,NO ,    4.499E-01,    1.501E+00,    2.619E+00,,    0.172
C,ZN-65   ,NO ,    9.623E-01,    3.266E+00,    4.994E+00,,    0.193
C,SE-75   ,NO ,    1.071E+00,    1.927E+00,    3.293E+00,,    0.325
C,SR-85   ,NO ,   -1.658E+01,    2.082E+00,    2.839E+00,,   -5.841
C,Y-88    ,NO ,   -5.208E-01,    1.465E+00,    2.442E+00,,   -0.213
C,NB-94   ,NO ,   -2.617E-01,    1.471E+00,    2.411E+00,,   -0.109
C,NB-95   ,NO ,    8.749E-01,    1.446E+00,    2.444E+00,,    0.358
C,ZR-95   ,NO ,   -9.082E-01,    2.546E+00,    4.139E+00,,   -0.219
C,MO-99   ,NO ,   -1.436E-02,    1.624E+01,    2.680E+01,,   -0.001
C,RU-103  ,NO ,   -3.046E-02,    1.544E+00,    2.572E+00,,   -0.012
C,RU-106  ,NO ,   -1.546E+00,    1.389E+01,    2.295E+01,,   -0.067
C,AG-110m ,NO ,   -6.780E-02,    1.472E+00,    2.433E+00,,   -0.028
C,SN-113  ,NO ,   -1.968E-01,    1.928E+00,    3.226E+00,,   -0.061
C,SB-124  ,NO ,   -9.083E-01,    1.632E+00,    2.557E+00,,   -0.355
C,SB-125  ,NO ,   -2.526E+00,    4.161E+00,    6.852E+00,,   -0.369
C,TE-129M ,NO ,   -1.003E+01,    1.714E+01,    2.817E+01,,   -0.356
C,I-131   ,NO ,    9.320E-01,    1.678E+00,    2.858E+00,,    0.326
C,BA-133  ,NO ,    1.874E+00,    2.266E+00,    3.433E+00,,    0.546
C,CS-134  ,NO ,   -3.836E-03,    1.763E+00,    2.549E+00,,   -0.002
C,CS-136  ,NO ,   -2.323E-01,    1.480E+00,    2.562E+00,,   -0.091
C,CS-137  ,NO ,   -1.213E+00,    1.634E+00,    2.630E+00,,   -0.461
C,CE-139  ,NO ,   -7.152E-01,    1.361E+00,    2.308E+00,,   -0.310
C,BA-140  ,NO ,    1.240E+00,    5.626E+00,    9.438E+00,,    0.131
C,LA-140  ,NO ,   -1.726E+00,    1.762E+00,    2.830E+00,,   -0.610
C,CE-141  ,NO ,    5.455E-01,    2.393E+00,    3.982E+00,,    0.137
C,CE-144  ,NO ,   -1.872E+00,    1.006E+01,    1.723E+01,,   -0.109
C,EU-152  ,NO ,   -1.233E+00,    4.450E+00,    7.441E+00,,   -0.166
C,EU-154  ,NO ,   -9.004E-01,    2.938E+00,    4.675E+00,,   -0.193
C,RA-226  ,NO ,   -2.863E+01,    5.364E+01,    6.906E+01,,   -0.415
C,AC-228  ,NO ,    3.973E+00,    9.691E+00,    1.067E+01,,    0.372
C,U-235   ,NO ,   -1.312E+00,    1.470E+01,    1.812E+01,,   -0.072
C,U-238   ,NO ,    1.205E+01,    2.240E+02,    3.116E+02,,    0.039
C,AM-241  ,NO ,    7.290E+00,    7.886E+00,    1.168E+01,,    0.624

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Sec. Review: Analyst: LIMS:

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VAX/VMS Teledyne Brown Eng. Laboratory Gamma Report: 11-AUG-2006 15:59:43.54

TBE07 P-10768B HpGe ***** Aquisition Date/Time: 11-AUG-2006 14:54:35.53

LIMS No., Customer Name, Client ID: L29557-4 WG EX/DRES

Sample ID : 07L29557-4 Smple Date: 10-AUG-2006 16:00:00.

Sample Type : WG Geometry : 073L082504

Quantity : 3.01590E+00 L BKGFILE : 07BG072806MT

Start Channel : 40 Energy Tol : 1.00000 Real Time : 0 01:05:01.62

End Channel : 4090 Pk Srch Sens: 5.00000 Live time : 0 01:05:00.75

MDA Constant : 0.00 Library Used: LIBD

| Pk | It | Energy | Area | Bkgnd | FWHM | Channel | %Eff | Cts/Sec | %Err | Fit |
|----|----|----------|------|-------|------|---------|----------|----------|------|----------|
| 1 | 1 | 294.98* | 96 | 78 | 1.17 | 591.70 | 1.81E+00 | 2.47E-02 | 19.7 | 2.54E+00 |
| 2 | 1 | 351.63* | 186 | 53 | 1.32 | 705.21 | 1.61E+00 | 4.78E-02 | 10.5 | 3.29E+00 |
| 3 | 1 | 608.99* | 154 | 35 | 1.59 | 1220.67 | 1.09E+00 | 3.94E-02 | 12.0 | 9.67E-01 |
| 4 | 1 | 768.11 | 33 | 7 | 1.86 | 1539.19 | 9.20E-01 | 8.35E-03 | 25.7 | 1.16E+00 |
| 5 | 1 | 1120.31* | 48 | 3 | 2.70 | 2243.68 | 7.03E-01 | 1.22E-02 | 16.9 | 7.00E-01 |
| 6 | 1 | 1238.12* | 22 | 2 | 3.02 | 2479.17 | 6.55E-01 | 5.56E-03 | 26.0 | 1.70E+00 |
| 7 | 1 | 1765.14* | 35 | 0 | 3.29 | 3531.72 | 5.12E-01 | 9.01E-03 | 18.2 | 2.43E-01 |

Flag: "*" = Peak area was modified by background subtraction

Nuclide Line Activity Report

Flag: "*" = Keyline

Summary of Nuclide Activity

Page : 2

Sample ID : 07L29557-4

Acquisition date : 11-AUG-2006 14:54:35

Total number of lines in spectrum

7

Number of unidentified lines

7

Number of lines tentatively identified by NID

0

0.00%

**** There are no nuclides meeting summary criteria ****

Flags: "K" = Keyline not found

"M" = Manually accepted

"E" = Manually edited

"A" = Nuclide specific abn. limit

Unidentified Energy Lines
Sample ID : 07L29557-4

Page : 3
Acquisition date : 11-AUG-2006 14:54:35

| It | Energy | Area | Bkgnd | FWHM | Channel | Left | Pw | Cts/Sec | %Err | %Eff | Flags |
|----|---------|------|-------|------|---------|------|----|----------|------|----------|-------|
| 1 | 294.98 | 96 | 78 | 1.17 | 591.70 | 587 | 9 | 2.47E-02 | 39.4 | 1.81E+00 | |
| 1 | 351.63 | 186 | 53 | 1.32 | 705.21 | 700 | 10 | 4.78E-02 | 20.9 | 1.61E+00 | |
| 1 | 608.99 | 154 | 35 | 1.59 | 1220.67 | 1215 | 14 | 3.94E-02 | 24.0 | 1.09E+00 | |
| 1 | 768.11 | 33 | 7 | 1.86 | 1539.19 | 1533 | 13 | 8.35E-03 | 51.4 | 9.20E-01 | |
| 1 | 1120.31 | 48 | 3 | 2.70 | 2243.68 | 2238 | 12 | 1.22E-02 | 33.8 | 7.03E-01 | |
| 1 | 1238.12 | 22 | 2 | 3.02 | 2479.17 | 2474 | 9 | 5.56E-03 | 52.0 | 6.55E-01 | |
| 1 | 1765.14 | 35 | 0 | 3.29 | 3531.72 | 3526 | 12 | 9.01E-03 | 36.3 | 5.12E-01 | |

Flags: "T" = Tentatively associated

Summary of Nuclide Activity

Total number of lines in spectrum 7
 Number of unidentified lines 7
 Number of lines tentatively identified by NID 0 0.00%
 **** There are no nuclides meeting summary criteria ****

Flags: "K" = Keyline not found "M" = Manually accepted
 "E" = Manually edited "A" = Nuclide specific abn. limit

Interference Report

No interference correction performed

Combined Activity-MDA Report

---- Non-Identified Nuclides ----

| Nuclide | Key-Line Activity (pCi/L) | K.L. Ided | Act error | MDA (pCi/L) | MDA error | Act/MDA |
|---------|---------------------------------|--------------|-----------|----------------|-----------|---------|
| BE-7 | 9.495E+00 | | 3.080E+01 | 5.171E+01 | 0.000E+00 | 0.184 |
| NA-24 | 2.916E+00 | | 1.015E+01 | 1.793E+01 | 0.000E+00 | 0.163 |
| K-40 | -4.351E+01 | | 4.369E+01 | 8.760E+01 | 0.000E+00 | -0.497 |
| CR-51 | 1.148E+01 | | 2.891E+01 | 4.967E+01 | 0.000E+00 | 0.231 |
| MN-54 | 1.341E+00 | | 3.662E+00 | 6.363E+00 | 0.000E+00 | 0.211 |
| CO-57 | 6.500E-01 | | 3.475E+00 | 5.681E+00 | 0.000E+00 | 0.114 |
| CO-58 | 6.500E-01 | | 3.028E+00 | 5.196E+00 | 0.000E+00 | 0.125 |
| FE-59 | -8.201E-01 | | 6.463E+00 | 1.023E+01 | 0.000E+00 | -0.080 |
| CO-60 | 2.322E+00 | | 3.503E+00 | 6.581E+00 | 0.000E+00 | 0.353 |
| ZN-65 | 4.658E+00 | | 6.662E+00 | 1.132E+01 | 0.000E+00 | 0.411 |
| SE-75 | 1.596E+00 | | 4.353E+00 | 7.509E+00 | 0.000E+00 | 0.213 |
| SR-85 | -1.623E+01 | | 4.837E+00 | 5.119E+00 | 0.000E+00 | -3.170 |
| Y-88 | 2.125E+00 | | 4.505E+00 | 8.061E+00 | 0.000E+00 | 0.264 |
| NB-94 | 7.547E-01 | | 3.657E+00 | 6.266E+00 | 0.000E+00 | 0.120 |
| NB-95 | 5.705E+00 | | 3.762E+00 | 6.975E+00 | 0.000E+00 | 0.818 |
| ZR-95 | -2.273E+00 | | 6.063E+00 | 9.541E+00 | 0.000E+00 | -0.238 |
| MO-99 | 5.048E+00 | | 3.494E+01 | 5.935E+01 | 0.000E+00 | 0.085 |
| RU-103 | -2.283E+00 | | 3.783E+00 | 5.662E+00 | 0.000E+00 | -0.403 |
| RU-106 | -1.116E+00 | | 2.803E+01 | 4.697E+01 | 0.000E+00 | -0.024 |
| AG-110m | -2.384E+00 | | 3.456E+00 | 5.277E+00 | 0.000E+00 | -0.452 |
| SN-113 | -1.738E+00 | | 4.437E+00 | 6.957E+00 | 0.000E+00 | -0.250 |

| | | | | | |
|---------|------------|-----------|-----------|-----------|--------|
| SB-124 | -1.019E+00 | 3.891E+00 | 5.123E+00 | 0.000E+00 | -0.199 |
| SB-125 | -4.718E+00 | 9.590E+00 | 1.469E+01 | 0.000E+00 | -0.321 |
| TE-129M | 9.172E-01 | 3.867E+01 | 6.300E+01 | 0.000E+00 | 0.015 |
| I-131 | -7.029E-01 | 3.186E+00 | 5.101E+00 | 0.000E+00 | -0.138 |
| BA-133 | 3.103E+00 | 4.970E+00 | 7.846E+00 | 0.000E+00 | 0.396 |
| CS-134 | 7.604E-01 | 3.578E+00 | 5.200E+00 | 0.000E+00 | 0.146 |
| CS-136 | 5.512E-01 | 3.244E+00 | 5.521E+00 | 0.000E+00 | 0.100 |
| CS-137 | 7.968E-01 | 3.816E+00 | 6.573E+00 | 0.000E+00 | 0.121 |
| CE-139 | 2.152E+00 | 3.523E+00 | 5.868E+00 | 0.000E+00 | 0.367 |
| BA-140 | 8.803E+00 | 1.272E+01 | 2.235E+01 | 0.000E+00 | 0.394 |
| LA-140 | 3.210E+00 | 4.396E+00 | 8.282E+00 | 0.000E+00 | 0.388 |
| CE-141 | -2.021E+00 | 5.829E+00 | 9.074E+00 | 0.000E+00 | -0.223 |
| CE-144 | -6.087E+00 | 2.794E+01 | 4.417E+01 | 0.000E+00 | -0.138 |
| EU-152 | 2.424E+00 | 1.093E+01 | 1.843E+01 | 0.000E+00 | 0.131 |
| EU-154 | -1.355E+00 | 7.285E+00 | 1.158E+01 | 0.000E+00 | -0.117 |
| RA-226 | 2.449E+01 | 1.001E+02 | 1.702E+02 | 0.000E+00 | 0.144 |
| AC-228 | -4.396E+00 | 1.192E+01 | 2.142E+01 | 0.000E+00 | -0.205 |
| TH-228 | -1.070E+01 | 7.438E+00 | 1.200E+01 | 0.000E+00 | -0.892 |
| TH-232 | -4.394E+00 | 1.191E+01 | 2.141E+01 | 0.000E+00 | -0.205 |
| U-235 | 8.683E+00 | 2.721E+01 | 4.501E+01 | 0.000E+00 | 0.193 |
| U-238 | 1.021E+02 | 4.461E+02 | 7.601E+02 | 0.000E+00 | 0.134 |
| AM-241 | -1.901E+01 | 3.063E+01 | 4.823E+01 | 0.000E+00 | -0.394 |

```

A,07L29557-4      ,08/11/2006 15:59,08/10/2006 16:00,      3.016E+00,L29557-4 WG EX
B,07L29557-4      ,LIBD      ,08/11/2006 09:47,073L082504
C,BE-7      ,NO ,      9.495E+00,      3.080E+01,      5.171E+01,,      0.184
C,NA-24      ,NO ,      2.916E+00,      1.015E+01,      1.793E+01,,      0.163
C,K-40      ,NO ,      -4.351E+01,      4.369E+01,      8.760E+01,,      -0.497
C,CR-51      ,NO ,      1.148E+01,      2.891E+01,      4.967E+01,,      0.231
C,MN-54      ,NO ,      1.341E+00,      3.662E+00,      6.363E+00,,      0.211
C,CO-57      ,NO ,      6.500E-01,      3.475E+00,      5.681E+00,,      0.114
C,CO-58      ,NO ,      6.500E-01,      3.028E+00,      5.196E+00,,      0.125
C,FE-59      ,NO ,      -8.201E-01,      6.463E+00,      1.023E+01,,      -0.080
C,CO-60      ,NO ,      2.322E+00,      3.503E+00,      6.581E+00,,      0.353
C,ZN-65      ,NO ,      4.658E+00,      6.662E+00,      1.132E+01,,      0.411
C,SE-75      ,NO ,      1.596E+00,      4.353E+00,      7.509E+00,,      0.213
C,SR-85      ,NO ,      -1.623E+01,      4.837E+00,      5.119E+00,,      -3.170
C,Y-88      ,NO ,      2.125E+00,      4.505E+00,      8.061E+00,,      0.264
C,NB-94      ,NO ,      7.547E-01,      3.657E+00,      6.266E+00,,      0.120
C,NB-95      ,NO ,      5.705E+00,      3.762E+00,      6.975E+00,,      0.818
C,ZR-95      ,NO ,      -2.273E+00,      6.063E+00,      9.541E+00,,      -0.238
C,MO-99      ,NO ,      5.048E+00,      3.494E+01,      5.935E+01,,      0.085
C,RU-103      ,NO ,      -2.283E+00,      3.783E+00,      5.662E+00,,      -0.403
C,RU-106      ,NO ,      -1.116E+00,      2.803E+01,      4.697E+01,,      -0.024
C,AG-110m      ,NO ,      -2.384E+00,      3.456E+00,      5.277E+00,,      -0.452
C,SN-113      ,NO ,      -1.738E+00,      4.437E+00,      6.957E+00,,      -0.250
C,SB-124      ,NO ,      -1.019E+00,      3.891E+00,      5.123E+00,,      -0.199
C,SB-125      ,NO ,      -4.718E+00,      9.590E+00,      1.469E+01,,      -0.321
C,TE-129M      ,NO ,      9.172E-01,      3.867E+01,      6.300E+01,,      0.015
C,I-131      ,NO ,      -7.029E-01,      3.186E+00,      5.101E+00,,      -0.138
C,BA-133      ,NO ,      3.103E+00,      4.970E+00,      7.846E+00,,      0.396
C,CS-134      ,NO ,      7.604E-01,      3.578E+00,      5.200E+00,,      0.146
C,CS-136      ,NO ,      5.512E-01,      3.244E+00,      5.521E+00,,      0.100
C,CS-137      ,NO ,      7.968E-01,      3.816E+00,      6.573E+00,,      0.121
C,CE-139      ,NO ,      2.152E+00,      3.523E+00,      5.868E+00,,      0.367
C,BA-140      ,NO ,      8.803E+00,      1.272E+01,      2.235E+01,,      0.394
C,LA-140      ,NO ,      3.210E+00,      4.396E+00,      8.282E+00,,      0.388
C,CE-141      ,NO ,      -2.021E+00,      5.829E+00,      9.074E+00,,      -0.223
C,CE-144      ,NO ,      -6.087E+00,      2.794E+01,      4.417E+01,,      -0.138
C,EU-152      ,NO ,      2.424E+00,      1.093E+01,      1.843E+01,,      0.131
C,EU-154      ,NO ,      -1.355E+00,      7.285E+00,      1.158E+01,,      -0.117
C,RA-226      ,NO ,      2.449E+01,      1.001E+02,      1.702E+02,,      0.144
C,AC-228      ,NO ,      -4.396E+00,      1.192E+01,      2.142E+01,,      -0.205
C,TH-228      ,NO ,      -1.070E+01,      7.438E+00,      1.200E+01,,      -0.892
C,TH-232      ,NO ,      -4.394E+00,      1.191E+01,      2.141E+01,,      -0.205
C,U-235      ,NO ,      8.683E+00,      2.721E+01,      4.501E+01,,      0.193
C,U-238      ,NO ,      1.021E+02,      4.461E+02,      7.601E+02,,      0.134
C,AM-241      ,NO ,      -1.901E+01,      3.063E+01,      4.823E+01,,      -0.394

```



2508 Quality Lane
Knoxville, TN 37931
865-690-6819 (Phone)

Work Order #: L29576

Exelon

August 16, 2006



TELEDYNE
BROWN ENGINEERING, INC.

A Teledyne Technologies Company
 2508 Quality Lane
 Knoxville, TN 37931-3133

Kathy Shaw
 Conestoga-Rovers & Associates
 45 Farmington Valley Road
 Plainville CT 06062

Case Narrative - L29576
EX001-3ESPDRES-06

08/16/2006 15:10

Sample Receipt

The following samples were received on August 12, 2006 in good condition, unless otherwise noted.

Cross Reference Table

| Client ID | Laboratory ID | Station ID(if applicable) |
|--------------------------------|---------------|---------------------------|
| WG-DN-MW-DN-119S-081106-GL-017 | L29576-1 | |
| WG-DN-MW-DN-119I-081106-GL-018 | L29576-2 | |
| WG-DN-MW-DN-115I-081106-GL-019 | L29576-3 | |
| WG-DN-MW-DN-114S-081106-GL-020 | L29576-4 | |
| WG-DN-MW-DN-114S-081106-GL-021 | L29576-5 | |

Analytical Method Cross Reference Table

| Radiological Parameter | TBE Knoxville Method | Reference Method |
|------------------------|----------------------|------------------|
| Gamma Spectrometry | TBE-2007 | EPA 901.1 |
| H-3 (DIST) | TBE-2010 | |
| TOTAL SR | TBE-2018 | EPA 905.0 |

**TELEDYNE
BROWN ENGINEERING, INC.**A Teledyne Technologies Company
2508 Quality Lane
Knoxville, TN 37931-3133**Case Narrative - L29576
EX001-3ESPDRES-06**

08/16/2006 15:10

Gamma Spectroscopy**Quality Control**

Quality control samples were analyzed as WG4314.

Duplicate Sample

Duplicates were analyzed for the following samples. All duplicate results were within acceptance limits, unless otherwise noted.

| <u>Client ID</u> | <u>Laboratory ID</u> | <u>QC Sample #</u> |
|--------------------------------|----------------------|--------------------|
| WG-DN-MW-DN-119S-081106-GL-017 | L29576-1 | WG4314-1 |

H-3 (DIST)**Quality Control**

Quality control samples were analyzed as WG4320.

Method Blank

All blanks were within acceptance limits, unless otherwise noted.

Laboratory Control Sample

All laboratory control samples were within acceptance limits, unless otherwise noted.

Duplicate Sample

Duplicates were analyzed for the following samples. All duplicate results were within acceptance limits, unless otherwise noted.

| <u>Client ID</u> | <u>Laboratory ID</u> | <u>QC Sample #</u> |
|--------------------------------|----------------------|--------------------|
| WG-DN-MW-DN-119S-081106-GL-017 | L29576-1 | WG4320-3 |



Case Narrative - L29576
EX001-3ESPDRES-06

08/16/2006 15:10

TOTAL SR

Quality Control

Quality control samples were analyzed as WG4323.

Method Blank

All blanks were within acceptance limits, unless otherwise noted.

Laboratory Control Sample

All laboratory control samples were within acceptance limits, unless otherwise noted.

Duplicate Sample

Duplicates were analyzed for the following samples. All duplicate results were within acceptance limits, unless otherwise noted.

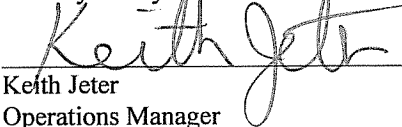
| <u>Client ID</u> | <u>Laboratory ID</u> | <u>QC Sample #</u> |
|--------------------------------|----------------------|--------------------|
| WG-DN-MW-DN-119S-081106-GL-017 | L29576-1 | WG4323-3 |

Certification

This is to certify that Teledyne Brown Engineering - Environmental Services, located at 2508 Quality Lane, Knoxville, Tennessee, 37931, has analyzed, tested and documented samples as specified in the applicable purchase order.

This also certifies that requirements of applicable codes, standards and specifications have been fully met and that any quality assurance documentation which verified conformance to the purchase order is on file and may be examined upon request.

I hereby certify that the above statements are true and correct.



Keith Jeter
Operations Manager

Sample Receipt Summary

Teledyne Brown Engineering
Sample Receipt Verification/Variance Report

08/14/06 08:40

SR #: SR09902

Client: Exelon

Project #: EX001-3ESPDRES-06

LIMS #: L29576

Initiated By: PMARSHALL

Init Date: 08/14/06 Receive Date: 08/12/06

Notification of Variance

Person Notified:

Contacted By:

Notify Date:

Notify Method:

Notify Comment:

Client Response

Person Responding:

Response Date:

Response Method:

Response Comment

| Criteria | Yes | No | NA | Comment |
|--|-----|----|----|---|
| 1 Shipping container custody seals present and intact. | | | NA | |
| 2 Sample container custody seals present and intact. | | | NA | |
| 3 Sample containers received in good condition | | | Y | |
| 4 Chain of custody received with samples | | | Y | |
| 5 All samples listed on chain of custody received | | | Y | |
| 6 Sample container labels present and legible. | | | Y | |
| 7 Information on container labels correspond with chain of custody | | | Y | |
| 8 Sample(s) properly preserved and in appropriate container(s) | | | N | |
| 9 Other (Describe) | | | NA | Gamma portion of samples required 5mL of nitric to bring pH to 2. |

CONESTOGA-ROVERS & ASSOCIATES

9033 Meridian Way
West Chester, Ohio 45069
513-942-4750 phone
513-942-8585 fax



SHIPPED TO

(Laboratory Name):

TELEDYNE

BROWN ENGINEERING

L29576

CHAIN-OF-CUSTODY RECORD

REFERENCE NUMBER:

45130-23-0015

PROJECT NAME:

EXCELON/DRESDEN FACILITY

SAMPLER'S SIGNATURE: Rachel B. Nashett PRINTED NAME: RACHEL NASHETT

| SEQ. No. | DATE | TIME | SAMPLE IDENTIFICATION No. | SAMPLE MATRIX | No. OF CONTAINERS | PARAMETERS | REMARKS |
|----------------------------|---------|------|--------------------------------|------------------|-------------------|------------|---------|
| | | | | | | | |
| 1 | 8-11-00 | 0900 | WLG-DN-MW-DN-119S-08H00-GL-017 | H ₂ O | 2 | X X X | |
| | | 0910 | -119I- | H ₂ O | 2 | X X X | |
| | | 1130 | -115I- | H ₂ O | 2 | X X X | |
| | | 1315 | -114S- | H ₂ O | 2 | X X X | |
| | | 1340 | -114S- -114S- -114S- | H ₂ O | 2 | X X X | |
| TOTAL NUMBER OF CONTAINERS | | | | | | 10 | |

| | | | |
|---|----------------------|-----------------------|-------------|
| RELINQUISHED BY: <u>Rachel B. Nashett</u> | DATE: <u>8-11-00</u> | RECEIVED BY: <u>2</u> | DATE: _____ |
| TIME: <u>1400</u> | TIME: _____ | TIME: _____ | TIME: _____ |
| RELINQUISHED BY: <u>2</u> | DATE: _____ | RECEIVED BY: <u>3</u> | DATE: _____ |
| TIME: _____ | TIME: _____ | TIME: _____ | TIME: _____ |
| RELINQUISHED BY: <u>3</u> | DATE: _____ | RECEIVED BY: <u>4</u> | DATE: _____ |
| TIME: _____ | TIME: _____ | TIME: _____ | TIME: _____ |

METHOD OF SHIPMENT:

DHL

AIR BILL No.

White -Fully Executed Copy
Yellow -Receiving Laboratory Copy
Pink -Shipper Copy
Goldenrod -Sampler Copy

SAMPLE TEAM:

C. LEWIS
R. NASHETT

RECEIVED FOR LABORATORY BY:

Rama Webb
DATE: 8/12/00 TIME: 11:30

004760

AUG 14 2006

TELEDYNE BROWN ENGINEERING
2508 Quality Lane
Knoxville, TN 37931-3133

ACKNOWLEDGEMENT

This is not an invoice

Kathy Shaw
Conestoga-Rovers & Associates
45 Farmington Valley Road
Plainville, CT 06062

August 14, 2006

The following sample(s) were received at Teledyne Brown Engineering Knoxville laboratory on August 12, 2006. The sample(s) have been scheduled for the analyses listed below and the report is scheduled for completion by August 17, 2006. Please review the following login information and pricing. Contact me if anything is incorrect or you have questions about the status of your sample(s).

Thank you for choosing Teledyne Brown Engineering for your analytical needs.

Sincerely,
Rebecca Charles
Project Manager
(865) 934-0379

Project ID: EX001-3ESPDRES-06
P.O. #: 00411203
Release #:
Contract#: 00411203
Kathy Shaw, FAX#: 860-747-1900, larry.walton@exeloncorp.com

| Client ID/ Station | Laboratory ID Analysis | Vol/Units Price | Start Collect Date/Time | End Collect Date/Time |
|---------------------------------------|---------------------------|--------------------|----------------------------|--------------------------|
| WG-DN-MW-DN-119S-081106-GL-0 L29576-1 | | | 08/11/06:0900 | |
| WG | GELI | 135.00 | | |
| WG | H-3 (DIST) | 135.00 | | |
| WG | SR-90 (FAST) | 175.00 | | |
| WG-DN-MW-DN-119I-081106-GL-0 L29576-2 | | | 08/11/06:0910 | |
| WG | GELI | 135.00 | | |
| WG | H-3 (DIST) | 135.00 | | |
| WG | SR-90 (FAST) | 175.00 | | |
| WG-DN-MW-DN-115I-081106-GL-0 L29576-3 | | | 08/11/06:1130 | |
| WG | GELI | 135.00 | | |
| WG | H-3 (DIST) | 135.00 | | |
| WG | SR-90 (FAST) | 175.00 | | |
| WG-DN-MW-DN-114S-081106-GL-0 L29576-4 | | | 08/11/06:1315 | |
| WG | GELI | 135.00 | | |
| WG | H-3 (DIST) | 135.00 | | |
| WG | SR-90 (FAST) | 175.00 | | |
| WG-DN-MW-DN-114S-081106-GL-0 L29576-5 | | | 08/11/06:1340 | |

| Client ID/ Station | Laboratory ID Analysis | Vol/Units Price | Start Collect Date/Time | End Collect Date/Time |
|-----------------------|---------------------------|--------------------|----------------------------|--------------------------|
|-----------------------|---------------------------|--------------------|----------------------------|--------------------------|

| | | | | |
|----|--------------|--------|--|--|
| WG | GELI | 135.00 | | |
| WG | H-3 (DIST) | 135.00 | | |
| WG | SR-90 (FAST) | 175.00 | | |

End of document

Internal Chain of Custody

Sample # L29576-1 Containernum 1

Prod Analyst
H-3 (DIST) DW
GELI DW
SR-90 (FAST) LCB

| Relinquish Date | Relinquish By | | Received By | |
|------------------|---------------|------------------|-------------|------------------|
| 08/12/2006 00:00 | | | 099999 | Sample Custodian |
| 08/14/2006 11:16 | 099999 | Sample Custodian | 030854 | Donna Webb |
| 08/15/2006 09:04 | 030854 | Donna Webb | 029728 | Lauren Larsen |
| 08/15/2006 10:08 | 029728 | Lauren Larsen | 030854 | Donna Webb |
| 08/15/2006 10:09 | 099999 | Sample Custodian | 030854 | Donna Webb |
| 08/15/2006 10:09 | 030854 | Donna Webb | 099999 | Sample Custodian |
| 08/15/2006 10:10 | 030854 | Donna Webb | 099999 | Sample Custodian |

Sample # L29576-1 Containernum 2

Prod Analyst
H-3 (DIST) DW
GELI DW
SR-90 (FAST) LCB

| Relinquish Date | Relinquish By | | Received By | |
|------------------|---------------|------------------|-------------|------------------|
| 08/12/2006 00:00 | | | 099999 | Sample Custodian |
| 08/14/2006 11:16 | 099999 | Sample Custodian | 030854 | Donna Webb |
| 08/15/2006 09:04 | 030854 | Donna Webb | 029728 | Lauren Larsen |

Sample # L29576-2 Containernum 1

Prod Analyst
H-3 (DIST) DW
GELI DW
SR-90 (FAST) LCB

| Relinquish Date | Relinquish By | | Received By | |
|------------------|---------------|------------------|-------------|------------------|
| 08/12/2006 00:00 | | | 099999 | Sample Custodian |
| 08/14/2006 11:16 | 099999 | Sample Custodian | 030854 | Donna Webb |
| 08/15/2006 09:04 | 030854 | Donna Webb | 029728 | Lauren Larsen |
| 08/15/2006 10:08 | 029728 | Lauren Larsen | 030854 | Donna Webb |
| 08/15/2006 10:09 | 099999 | Sample Custodian | 030854 | Donna Webb |
| 08/15/2006 10:09 | 030854 | Donna Webb | 099999 | Sample Custodian |
| 08/15/2006 10:10 | 030854 | Donna Webb | 099999 | Sample Custodian |

Sample # L29576-2 Containernum 2

Prod Analyst
H-3 (DIST) DW
GELI DW
SR-90 (FAST) LCB

| Relinquish Date | Relinquish By | | Received By | |
|------------------|---------------|--|-------------|------------------|
| 08/12/2006 00:00 | | | 099999 | Sample Custodian |

Internal Chain of Custody

Sample # L29576-2 Containernum 2

| Relinquish Date | | | Received By | |
|------------------|--------|------------------|-------------|---------------|
| 08/14/2006 11:16 | 099999 | Sample Custodian | 030854 | Donna Webb |
| 08/15/2006 09:04 | 030854 | Donna Webb | 029728 | Lauren Larsen |

Sample # L29576-3 Containernum 1

| Prod | Analyst |
|--------------|---------|
| H-3 (DIST) | DW |
| GELI | DW |
| SR-90 (FAST) | LCB |

| Relinquish Date | Relinquish By | | Received By | |
|------------------|---------------|------------------|-------------|------------------|
| 08/12/2006 00:00 | | | 099999 | Sample Custodian |
| 08/14/2006 11:16 | 099999 | Sample Custodian | 030854 | Donna Webb |
| 08/15/2006 09:04 | 030854 | Donna Webb | 029728 | Lauren Larsen |
| 08/15/2006 10:08 | 029728 | Lauren Larsen | 030854 | Donna Webb |
| 08/15/2006 10:09 | 099999 | Sample Custodian | 030854 | Donna Webb |
| 08/15/2006 10:09 | 030854 | Donna Webb | 099999 | Sample Custodian |
| 08/15/2006 10:10 | 030854 | Donna Webb | 099999 | Sample Custodian |

Sample # L29576-3 Containernum 2

| Prod | Analyst |
|--------------|---------|
| H-3 (DIST) | DW |
| GELI | DW |
| SR-90 (FAST) | LCB |

| Relinquish Date | Relinquish By | | Received By | |
|------------------|---------------|------------------|-------------|------------------|
| 08/12/2006 00:00 | | | 099999 | Sample Custodian |
| 08/14/2006 11:16 | 099999 | Sample Custodian | 030854 | Donna Webb |
| 08/15/2006 09:04 | 030854 | Donna Webb | 029728 | Lauren Larsen |

Sample # L29576-4 Containernum 1

| Prod | Analyst |
|--------------|---------|
| H-3 (DIST) | DW |
| GELI | DW |
| SR-90 (FAST) | LCB |

| Relinquish Date | Relinquish By | | Received By | |
|------------------|---------------|------------------|-------------|------------------|
| 08/12/2006 00:00 | | | 099999 | Sample Custodian |
| 08/14/2006 11:16 | 099999 | Sample Custodian | 030854 | Donna Webb |
| 08/15/2006 09:04 | 030854 | Donna Webb | 029728 | Lauren Larsen |
| 08/15/2006 10:08 | 029728 | Lauren Larsen | 030854 | Donna Webb |
| 08/15/2006 10:09 | 099999 | Sample Custodian | 030854 | Donna Webb |
| 08/15/2006 10:09 | 030854 | Donna Webb | 099999 | Sample Custodian |
| 08/15/2006 10:10 | 030854 | Donna Webb | 099999 | Sample Custodian |

Sample # L29576-4 Containernum 2

| Prod | Analyst |
|------------|---------|
| H-3 (DIST) | DW |

Internal Chain of Custody

Sample # L29576-4 Containernum 2

GELI DW
SR-90 (FAST) LCB

Relinquish Date Relinquish By

Received By

08/12/2006 00:00

099999

Sample Custodian

08/14/2006 11:16

099999

Sample Custodian

030854

Donna Webb

08/15/2006 09:04

030854

Donna Webb

029728

Lauren Larsen

Sample # L29576-5 Containernum 1

Prod Analyst
SR-90 (FAST) LCB
H-3 (DIST) DW
GELI DW

Relinquish Date Relinquish By

Received By

08/12/2006 00:00

099999

Sample Custodian

08/14/2006 11:16

099999

Sample Custodian

030854

Donna Webb

08/15/2006 09:04

030854

Donna Webb

029728

Lauren Larsen

08/15/2006 10:08

029728

Lauren Larsen

030854

Donna Webb

08/15/2006 10:09

099999

Sample Custodian

030854

Donna Webb

08/15/2006 10:09

030854

Donna Webb

099999

Sample Custodian

08/15/2006 10:10

030854

Donna Webb

099999

Sample Custodian

Sample # L29576-5 Containernum 2

Prod Analyst
SR-90 (FAST) LCB
H-3 (DIST) DW
GELI DW

Relinquish Date Relinquish By

Received By

08/12/2006 00:00

099999

Sample Custodian

08/14/2006 11:16

099999

Sample Custodian

030854

Donna Webb

08/15/2006 09:04

030854

Donna Webb

029728

Lauren Larsen

08/16/06

Teledyne Brown Engineering
Internal Chain of Custody
Supplemental Sheet

L29576

L29576-1 WG WG-DN-MW-DN-119S-081106-GL-017

| <u>Process step</u> | <u>Prod</u> | <u>Analyst</u> | <u>Date</u> |
|---------------------|--------------|----------------|-------------|
| Login | | RCHARLES | 08/12/06 |
| Aliquot | GELI | DW | 08/14/06 |
| Aliquot | SR-90 (FAST) | LCB | 08/14/06 |
| Aliquot | H-3 (DIST) | DW | 08/15/06 |
| Count Room | GELI | ILL | 08/14/06 |
| Count Room | H-3 (DIST) | KOJ | 08/15/06 |
| Count Room | SR-90 (FAST) | KOJ | 08/15/06 |

L29576-2 WG WG-DN-MW-DN-119I-081106-GL-018

| <u>Process step</u> | <u>Prod</u> | <u>Analyst</u> | <u>Date</u> |
|---------------------|--------------|----------------|-------------|
| Login | | RCHARLES | 08/12/06 |
| Aliquot | GELI | DW | 08/14/06 |
| Aliquot | SR-90 (FAST) | LCB | 08/14/06 |
| Aliquot | H-3 (DIST) | DW | 08/15/06 |
| Count Room | GELI | ILL | 08/14/06 |
| Count Room | H-3 (DIST) | KOJ | 08/15/06 |
| Count Room | SR-90 (FAST) | KOJ | 08/15/06 |

L29576-3 WG WG-DN-MW-DN-115I-081106-GL-019

| <u>Process step</u> | <u>Prod</u> | <u>Analyst</u> | <u>Date</u> |
|---------------------|--------------|----------------|-------------|
| Login | | RCHARLES | 08/12/06 |
| Aliquot | GELI | DW | 08/14/06 |
| Aliquot | SR-90 (FAST) | LCB | 08/14/06 |
| Aliquot | H-3 (DIST) | DW | 08/15/06 |
| Count Room | GELI | ILL | 08/14/06 |
| Count Room | H-3 (DIST) | KOJ | 08/15/06 |
| Count Room | SR-90 (FAST) | KOJ | 08/15/06 |

L29576-4 WG WG-DN-MW-DN-114S-081106-GL-020

| <u>Process step</u> | <u>Prod</u> | <u>Analyst</u> | <u>Date</u> |
|---------------------|--------------|----------------|-------------|
| Login | | RCHARLES | 08/12/06 |
| Aliquot | GELI | DW | 08/14/06 |
| Aliquot | SR-90 (FAST) | LCB | 08/14/06 |
| Aliquot | H-3 (DIST) | DW | 08/15/06 |
| Count Room | GELI | ILL | 08/14/06 |
| Count Room | H-3 (DIST) | KOJ | 08/15/06 |
| Count Room | SR-90 (FAST) | KOJ | 08/16/06 |

L29576-5 WG WG-DN-MW-DN-114S-081106-GL-021

| <u>Process step</u> | <u>Prod</u> | <u>Analyst</u> | <u>Date</u> |
|---------------------|--------------|----------------|-------------|
| Login | | RCHARLES | 08/12/06 |
| Aliquot | GELI | DW | 08/14/06 |
| Aliquot | SR-90 (FAST) | LCB | 08/14/06 |
| Aliquot | H-3 (DIST) | DW | 08/15/06 |
| Count Room | GELI | ILL | 08/14/06 |

08/16/06

Teledyne Brown Engineering
Internal Chain of Custody
Supplemental Sheet

L29576

| | | |
|------------|--------------|--------------------------------|
| L29576-5 | WG | WG-DN-MW-DN-114S-081106-GL-021 |
| Count Room | H-3 (DIST) | KOJ |
| Count Room | SR-90 (FAST) | KOJ |

08/15/06

08/16/06

Analytical Results Summary

Report of Analysis

08/16/06 13:09

L29576

Conestoga-Rovers & Associates

EX001-3ESPDRES-06

Kathy Shaw

| Sample ID: WG-DN-MW-DN-119S-081106-GL-017 | | | | | | | | | | Matrix: Ground Water | | | (WG) |
|--|------|---------------|---------------------|-----------------|-------|-------|----------------|---------------|----------------|----------------------|------------|-------------|-------------|
| Station: | | | | | | | | | | Volume: | | | |
| Description: | | | | | | | | | | % Moisture: | | | |
| LIMS Number: L29576-1 | | | | | | | | | | | | | |
| Radionuclide | SOP# | Activity Conc | Uncertainty 2 Sigma | MDC | Units | Run # | Aliquot Volume | Aliquot Units | Reference Date | Count Date | Count Time | Count Units | Flag Values |
| H-3 (DIST) | 2010 | -2.60E+01 | 1.09E+02 | 1.83E+02 | pCi/L | | 10 | ml | | 08/15/06 | 60 | M | U |
| TOTAL SR | 2018 | 2.50E-01 | 7.05E-01 | 1.44E+00 | pCi/L | | 450 | ml | 08/11/06 09:00 | 08/15/06 | 80 | M | U |
| MN-54 | 2007 | -4.42E-01 | 3.52E+00 | 5.60E+00 | pCi/L | | 2869.35 | ml | 08/11/06 09:00 | 08/14/06 | 4501 | Sec | U |
| CO-58 | 2007 | 6.65E-01 | 3.61E+00 | 6.02E+00 | pCi/L | | 2869.35 | ml | 08/11/06 09:00 | 08/14/06 | 4501 | Sec | U |
| FE-59 | 2007 | 7.50E-01 | 6.63E+00 | 1.12E+01 | pCi/L | | 2869.35 | ml | 08/11/06 09:00 | 08/14/06 | 4501 | Sec | U |
| CO-60 | 2007 | -3.85E-01 | 3.25E+00 | 5.20E+00 | pCi/L | | 2869.35 | ml | 08/11/06 09:00 | 08/14/06 | 4501 | Sec | U |
| ZN-65 | 2007 | -1.89E+00 | 8.25E+00 | 1.12E+01 | pCi/L | | 2869.35 | ml | 08/11/06 09:00 | 08/14/06 | 4501 | Sec | U |
| NB-95 | 2007 | 1.73E+00 | 4.38E+00 | 6.62E+00 | pCi/L | | 2869.35 | ml | 08/11/06 09:00 | 08/14/06 | 4501 | Sec | U |
| ZR-95 | 2007 | -1.95E+00 | 6.17E+00 | 9.62E+00 | pCi/L | | 2869.35 | ml | 08/11/06 09:00 | 08/14/06 | 4501 | Sec | U |
| CS-134 | 2007 | -4.02E-01 | 3.65E+00 | 5.16E+00 | pCi/L | | 2869.35 | ml | 08/11/06 09:00 | 08/14/06 | 4501 | Sec | U |
| CS-137 | 2007 | 3.32E+00 | 3.69E+00 | 6.75E+00 | pCi/L | | 2869.35 | ml | 08/11/06 09:00 | 08/14/06 | 4501 | Sec | U |
| BA-140 | 2007 | -8.09E+00 | 1.19E+01 | 1.80E+01 | pCi/L | | 2869.35 | ml | 08/11/06 09:00 | 08/14/06 | 4501 | Sec | U |
| LA-140 | 2007 | -1.39E+00 | 4.42E+00 | 6.60E+00 | pCi/L | | 2869.35 | ml | 08/11/06 09:00 | 08/14/06 | 4501 | Sec | U |

No = Peak not identified in gamma spectrum
Yes = Peak identified in gamma spectrum
**** Results are reported on an as received basis unless otherwise noted

MDC - Minimum Detectable Concentration

Flag Values
U = Compound/Analyte not detected or less than 3 sigma
+ = Activity concentration exceeds MDC and 3 sigma; peak identified(gamma only)
U* = Compound/Analyte not detected. Peak not identified, but forced activity concentration exceeds MDC and 3 sigma
High = Activity concentration exceeds customer reporting value
Spec = MDC exceeds customer technical specification
L = Low recovery
H = High recovery

Bolded text indicates reportable value.

Report of Analysis

08/16/06 13:09

L29576

Conestoga-Rovers & Associates

EX001-3ESPDRES-06

Kathy Shaw

| Sample ID: WG-DN-MW-DN-1191-081106-GL-018 | | | | | | | | | | Collect Start: 08/11/2006 09:10 | | | Matrix: Ground Water | | | (WG) |
|---|------|---------------|---------------------|----------|-------|-------|----------------|---------------|----------------|---------------------------------|------------|-------------|----------------------|----|--|------|
| Station: | | | | | | | | | | Collect Stop: | | | Volume: | | | |
| Description: | | | | | | | | | | Receive Date: 08/12/2006 | | | % Moisture: | | | |
| LIMS Number: L29576-2 | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | |
| Radionuclide | SOP# | Activity Conc | Uncertainty 2 Sigma | MDC | Units | Run # | Aliquot Volume | Aliquot Units | Reference Date | Count Date | Count Time | Count Units | Flag Values | | | |
| H-3 (DIST) | 2010 | 1.47E+03 | 2.11E+02 | 2.16E+02 | pCi/L | | 10 | ml | | 08/15/06 | 42.81 | M | + | | | |
| TOTAL SR | 2018 | 5.34E-01 | 7.15E-01 | 1.29E+00 | pCi/L | | 450 | ml | 08/11/06 09:10 | 08/15/06 | 200 | M | U | | | |
| MN-54 | 2007 | 6.89E-01 | 2.65E+00 | 5.02E+00 | pCi/L | | 3136.96 | ml | 08/11/06 09:10 | 08/14/06 | 5761 | Sec | U | No | | |
| CO-58 | 2007 | -3.67E-01 | 2.56E+00 | 4.63E+00 | pCi/L | | 3136.96 | ml | 08/11/06 09:10 | 08/14/06 | 5761 | Sec | U | No | | |
| FE-59 | 2007 | -1.77E+00 | 5.79E+00 | 1.00E+01 | pCi/L | | 3136.96 | ml | 08/11/06 09:10 | 08/14/06 | 5761 | Sec | U | No | | |
| CO-60 | 2007 | 1.44E+00 | 2.88E+00 | 5.96E+00 | pCi/L | | 3136.96 | ml | 08/11/06 09:10 | 08/14/06 | 5761 | Sec | U | No | | |
| ZN-65 | 2007 | -2.01E+00 | 7.01E+00 | 1.03E+01 | pCi/L | | 3136.96 | ml | 08/11/06 09:10 | 08/14/06 | 5761 | Sec | U | No | | |
| NB-95 | 2007 | 1.54E+00 | 3.20E+00 | 6.06E+00 | pCi/L | | 3136.96 | ml | 08/11/06 09:10 | 08/14/06 | 5761 | Sec | U | No | | |
| ZR-95 | 2007 | -3.73E-01 | 5.23E+00 | 9.41E+00 | pCi/L | | 3136.96 | ml | 08/11/06 09:10 | 08/14/06 | 5761 | Sec | U | No | | |
| CS-134 | 2007 | -7.63E-01 | 3.49E+00 | 5.27E+00 | pCi/L | | 3136.96 | ml | 08/11/06 09:10 | 08/14/06 | 5761 | Sec | U | No | | |
| CS-137 | 2007 | -2.55E-01 | 2.75E+00 | 5.01E+00 | pCi/L | | 3136.96 | ml | 08/11/06 09:10 | 08/14/06 | 5761 | Sec | U | No | | |
| BA-140 | 2007 | -2.29E+00 | 1.12E+01 | 2.01E+01 | pCi/L | | 3136.96 | ml | 08/11/06 09:10 | 08/14/06 | 5761 | Sec | U | No | | |
| LA-140 | 2007 | -1.10E+00 | 3.42E+00 | 6.27E+00 | pCi/L | | 3136.96 | ml | 08/11/06 09:10 | 08/14/06 | 5761 | Sec | U | No | | |

Flag Values

U = Compound/Analyte not detected or less than 3 sigma
 + = Activity concentration exceeds MDC and 3 sigma; peak identified (gamma only)
 U* = Compound/Analyte not detected. Peak not identified, but forced activity concentration exceeds MDC and 3 sigma
 High = Activity concentration exceeds customer reporting value
 Spec = MDC exceeds customer technical specification
 L = Low recovery
 H = High recovery

Bolded text indicates reportable value.

No = Peak not identified in gamma spectrum
 Yes = Peak identified in gamma spectrum
 **** Results are reported on an as received basis unless otherwise noted

MDC - Minimum Detectable Concentration

Report of Analysis

08/16/06 13:09

L29576

Conestoga-Rovers & Associates

EX001-3ESPDRES-06

Kathy Shaw

| Sample ID: WG-DN-MW-DN-1151-081106-GL-019 | | | | | | | | | | Matrix: Ground Water | | | | (WG) |
|--|------|---------------|---------------------|----------|-------|-------|----------------|---------------|----------------|---------------------------------|------------|-------------|-------------|------|
| Station: | | | | | | | | | | Volume: | | | | |
| Description: | | | | | | | | | | % Moisture: | | | | |
| LIMS Number: L29576-3 | | | | | | | | | | Collect Start: 08/11/2006 11:30 | | | | |
| | | | | | | | | | | Collect Stop: | | | | |
| | | | | | | | | | | Receive Date: 08/12/2006 | | | | |
| Radionuclide | SOP# | Activity Conc | Uncertainty 2 Sigma | MDC | Units | Run # | Aliquot Volume | Aliquot Units | Reference Date | Count Date | Count Time | Count Units | Flag Values | |
| H-3 (DIST) | 2010 | 1.17E+02 | 1.17E+02 | 1.81E+02 | pCi/L | | 10 | ml | 08/11/06 11:30 | 08/15/06 | 60 | M | U | |
| TOTAL SR | 2018 | -6.49E-01 | 8.60E-01 | 1.71E+00 | pCi/L | | 450 | ml | 08/11/06 11:30 | 08/15/06 | 200 | M | U | |
| MN-54 | 2007 | -1.41E+00 | 3.31E+00 | 5.13E+00 | pCi/L | | 3081.1 | ml | 08/11/06 11:30 | 08/14/06 | 4021 | Sec | U | No |
| CO-58 | 2007 | -2.14E+00 | 4.15E+00 | 5.97E+00 | pCi/L | | 3081.1 | ml | 08/11/06 11:30 | 08/14/06 | 4021 | Sec | U | No |
| FE-59 | 2007 | 2.19E+00 | 8.32E+00 | 1.44E+01 | pCi/L | | 3081.1 | ml | 08/11/06 11:30 | 08/14/06 | 4021 | Sec | U | No |
| CO-60 | 2007 | -2.91E-01 | 4.63E+00 | 8.34E+00 | pCi/L | | 3081.1 | ml | 08/11/06 11:30 | 08/14/06 | 4021 | Sec | U | No |
| ZN-65 | 2007 | -3.47E+00 | 1.03E+01 | 1.33E+01 | pCi/L | | 3081.1 | ml | 08/11/06 11:30 | 08/14/06 | 4021 | Sec | U | No |
| NB-95 | 2007 | 3.01E+00 | 3.71E+00 | 6.33E+00 | pCi/L | | 3081.1 | ml | 08/11/06 11:30 | 08/14/06 | 4021 | Sec | U | No |
| ZR-95 | 2007 | -6.61E+00 | 6.48E+00 | 8.07E+00 | pCi/L | | 3081.1 | ml | 08/11/06 11:30 | 08/14/06 | 4021 | Sec | U | No |
| CS-134 | 2007 | -1.62E+00 | 3.76E+00 | 4.80E+00 | pCi/L | | 3081.1 | ml | 08/11/06 11:30 | 08/14/06 | 4021 | Sec | U | No |
| CS-137 | 2007 | 4.73E-01 | 4.64E+00 | 7.62E+00 | pCi/L | | 3081.1 | ml | 08/11/06 11:30 | 08/14/06 | 4021 | Sec | U | No |
| BA-140 | 2007 | -2.73E+00 | 1.63E+01 | 2.62E+01 | pCi/L | | 3081.1 | ml | 08/11/06 11:30 | 08/14/06 | 4021 | Sec | U | No |
| LA-140 | 2007 | -7.74E-02 | 5.91E+00 | 9.88E+00 | pCi/L | | 3081.1 | ml | 08/11/06 11:30 | 08/14/06 | 4021 | Sec | U | No |

No = Peak not identified in gamma spectrum
Yes = Peak identified in gamma spectrum
**** Results are reported on an as received basis unless otherwise noted

MDC - Minimum Detectable Concentration

Flag Values
U = Compound/Analyte not detected or less than 3 sigma
+ = Activity concentration exceeds MDC and 3 sigma; peak identified(gamma only)
U* = Compound/Analyte not detected. Peak not identified, but forced activity concentration exceeds MDC and 3 sigma
High = Activity concentration exceeds customer reporting value
Spec = MDC exceeds customer technical specification
L = Low recovery
H = High recovery

Bolded text indicates reportable value.

Report of Analysis

08/16/06 13:09

L29576

Conestoga-Rovers & Associates

EX001-3ESPDRES-06

Kathy Shaw

| Sample ID: WG-DN-MW-DN-114S-081106-GL-020 | | | | | | | | | | Matrix: Ground Water | | | | (WG) |
|--|------|---------------|---------------------|----------|-------|-------|----------------|---------------|----------------|---------------------------------|------------|-------------|-------------|------|
| Station: | | | | | | | | | | Volume: | | | | |
| Description: | | | | | | | | | | % Moisture: | | | | |
| LIMS Number: L29576-4 | | | | | | | | | | Collect Start: 08/11/2006 13:15 | | | | |
| | | | | | | | | | | Collect Stop: | | | | |
| | | | | | | | | | | Receive Date: 08/12/2006 | | | | |
| Radionuclide | SOP# | Activity Conc | Uncertainty 2 Sigma | MDC | Units | Run # | Aliquot Volume | Aliquot Units | Reference Date | Count Date | Count Time | Count Units | Flag Values | |
| H-3 (DIST) | 2010 | 2.77E+03 | 3.36E+02 | 2.79E+02 | pCi/L | | 10 | ml | 08/11/06 13:15 | 08/15/06 | 26.04 | M | + | High |
| TOTAL SR | 2018 | 3.79E-01 | 8.18E-01 | 1.65E+00 | pCi/L | | 450 | ml | 08/11/06 13:15 | 08/16/06 | 80 | M | U | |
| MN-54 | 2007 | -8.43E-01 | 2.16E+00 | 3.36E+00 | pCi/L | | 2867.63 | ml | 08/11/06 13:15 | 08/14/06 | 10892 | Sec | U | No |
| CO-58 | 2007 | -3.55E-01 | 2.29E+00 | 3.66E+00 | pCi/L | | 2867.63 | ml | 08/11/06 13:15 | 08/14/06 | 10892 | Sec | U | No |
| FE-59 | 2007 | 7.71E-01 | 4.08E+00 | 6.92E+00 | pCi/L | | 2867.63 | ml | 08/11/06 13:15 | 08/14/06 | 10892 | Sec | U | No |
| CO-60 | 2007 | 4.23E-01 | 2.34E+00 | 3.91E+00 | pCi/L | | 2867.63 | ml | 08/11/06 13:15 | 08/14/06 | 10892 | Sec | U | No |
| ZN-65 | 2007 | -8.38E+00 | 4.99E+00 | 6.86E+00 | pCi/L | | 2867.63 | ml | 08/11/06 13:15 | 08/14/06 | 10892 | Sec | U | No |
| NB-95 | 2007 | -5.79E-01 | 2.29E+00 | 3.65E+00 | pCi/L | | 2867.63 | ml | 08/11/06 13:15 | 08/14/06 | 10892 | Sec | U | No |
| ZR-95 | 2007 | -8.70E-02 | 3.54E+00 | 5.77E+00 | pCi/L | | 2867.63 | ml | 08/11/06 13:15 | 08/14/06 | 10892 | Sec | U | No |
| CS-134 | 2007 | 1.18E-01 | 2.39E+00 | 3.46E+00 | pCi/L | | 2867.63 | ml | 08/11/06 13:15 | 08/14/06 | 10892 | Sec | U | No |
| CS-137 | 2007 | -2.15E+00 | 2.25E+00 | 3.38E+00 | pCi/L | | 2867.63 | ml | 08/11/06 13:15 | 08/14/06 | 10892 | Sec | U | No |
| BA-140 | 2007 | 7.02E+00 | 8.47E+00 | 1.50E+01 | pCi/L | | 2867.63 | ml | 08/11/06 13:15 | 08/14/06 | 10892 | Sec | U | No |
| LA-140 | 2007 | 5.15E-01 | 2.75E+00 | 4.57E+00 | pCi/L | | 2867.63 | ml | 08/11/06 13:15 | 08/14/06 | 10892 | Sec | U | No |

Flag Values

U = Compound/Analyte not detected or less than 3 sigma
 + = Activity concentration exceeds MDC and 3 sigma; peak identified(gamma only)
 U* = Compound/Analyte not detected. Peak not identified, but forced activity concentration exceeds MDC and 3 sigma
 High = Activity concentration exceeds customer reporting value
 Spec = MDC exceeds customer technical specification
 L = Low recovery
 H = High recovery

Bolded text indicates reportable value.

No = Peak not identified in gamma spectrum
 Yes = Peak identified in gamma spectrum
 **** Results are reported on an as received basis unless otherwise noted

MDC - Minimum Detectable Concentration

Report of Analysis

08/16/06 13:09

L29576

Conestoga-Rovers & Associates

EX001-3ESPDRES-06

Kathy Shaw

| Sample ID: WG-DN-MW-DN-114S-081106-GL-021 | | | | | | | | | | Matrix: Ground Water | | | (WG) |
|---|------|---------------|---------------------|----------|-------|-------|----------------|---------------|----------------|----------------------|------------|-------------|-------------|
| Station: | | | | | | | | | | Volume: | | | |
| Description: | | | | | | | | | | % Moisture: | | | |
| LIMS Number: L29576-5 | | | | | | | | | | | | | |
| Collect Start: 08/11/2006 13:40 | | | | | | | | | | | | | |
| Collect Stop: | | | | | | | | | | | | | |
| Receive Date: 08/12/2006 | | | | | | | | | | | | | |
| Radionuclide | SOP# | Activity Conc | Uncertainty 2 Sigma | MDC | Units | Run # | Aliquot Volume | Aliquot Units | Reference Date | Count Date | Count Time | Count Units | Flag Values |
| H-3 (DIST) | 2010 | 2.74E+03 | 3.35E+02 | 2.82E+02 | pCi/L | | 10 | ml | | 08/15/06 | 26.9 | M | + High |
| TOTAL SR | 2018 | -2.02E-01 | 6.56E-01 | 1.44E+00 | pCi/L | | 450 | ml | 08/11/06 13:40 | 08/16/06 | 80 | M | |
| MN-54 | 2007 | 4.10E-01 | 2.53E+00 | 4.62E+00 | pCi/L | | 3088.86 | ml | 08/11/06 13:40 | 08/14/06 | 7538 | Sec | No |
| CO-58 | 2007 | -4.68E-01 | 2.75E+00 | 4.82E+00 | pCi/L | | 3088.86 | ml | 08/11/06 13:40 | 08/14/06 | 7538 | Sec | No |
| FE-59 | 2007 | -4.11E+00 | 5.73E+00 | 9.21E+00 | pCi/L | | 3088.86 | ml | 08/11/06 13:40 | 08/14/06 | 7538 | Sec | No |
| CO-60 | 2007 | -5.87E-01 | 2.22E+00 | 4.08E+00 | pCi/L | | 3088.86 | ml | 08/11/06 13:40 | 08/14/06 | 7538 | Sec | No |
| ZN-65 | 2007 | 6.12E-01 | 5.47E+00 | 8.78E+00 | pCi/L | | 3088.86 | ml | 08/11/06 13:40 | 08/14/06 | 7538 | Sec | No |
| NB-95 | 2007 | -4.30E-01 | 2.43E+00 | 4.30E+00 | pCi/L | | 3088.86 | ml | 08/11/06 13:40 | 08/14/06 | 7538 | Sec | No |
| ZR-95 | 2007 | 8.34E-01 | 4.92E+00 | 8.93E+00 | pCi/L | | 3088.86 | ml | 08/11/06 13:40 | 08/14/06 | 7538 | Sec | No |
| CS-134 | 2007 | 1.22E-02 | 2.81E+00 | 4.38E+00 | pCi/L | | 3088.86 | ml | 08/11/06 13:40 | 08/14/06 | 7538 | Sec | No |
| CS-137 | 2007 | -1.92E+00 | 2.93E+00 | 4.90E+00 | pCi/L | | 3088.86 | ml | 08/11/06 13:40 | 08/14/06 | 7538 | Sec | No |
| BA-140 | 2007 | 8.37E+00 | 1.07E+01 | 2.04E+01 | pCi/L | | 3088.86 | ml | 08/11/06 13:40 | 08/14/06 | 7538 | Sec | No |
| LA-140 | 2007 | -2.74E-01 | 3.02E+00 | 5.70E+00 | pCi/L | | 3088.86 | ml | 08/11/06 13:40 | 08/14/06 | 7538 | Sec | No |

Flag Values

U = Compound/Analyte not detected or less than 3 sigma

+ = Activity concentration exceeds MDC and 3 sigma; peak identified (gamma only)

U* = Compound/Analyte not detected. Peak not identified, but forced activity concentration exceeds MDC and 3 sigma

High = Activity concentration exceeds customer reporting value

Spec = MDC exceeds customer technical specification

L = Low recovery

H = High recovery

Bolded text indicates reportable value.

No = Peak not identified in gamma spectrum

Yes = Peak identified in gamma spectrum

**** Results are reported on an as received basis unless otherwise noted

MDC - Minimum Detectable Concentration

QC Results Summary

QC Summary Report

for L29576

8/16/2006 3:09:38PM



H-3 (DIST)

Method Blank Summary

| <u>TBE Sample ID</u> | <u>Radionuclide</u> | <u>Matrix</u> | <u>Count Date/Time</u> | <u>Blank Result</u> | <u>Units</u> | <u>Qualifier</u> | <u>P/F</u> |
|----------------------|---------------------|---------------|------------------------|---------------------|--------------|------------------|------------|
| WG4320-1 | H-3 (DIST) | WO | 08/15/2006 14:44 | < 1.880E+00 | pCi/Total | U | P |

LCS Sample Summary

| <u>TBE Sample ID</u> | <u>Radionuclide</u> | <u>Matrix</u> | <u>Count Date/Time</u> | <u>Spike Value</u> | <u>LCS Result</u> | <u>Units</u> | <u>Spike Recovery</u> | <u>Range</u> | <u>Qualifier</u> | <u>P/F</u> |
|----------------------|---------------------|---------------|------------------------|--------------------|-------------------|--------------|-----------------------|--------------|------------------|------------|
| WG4320-2 | H-3 (DIST) | WO | 08/15/2006 15:48 | 5.05E+002 | 5.230E+02 | pCi/Total | 103.6 | 70-130 | + | P |

Spike ID: 3H-041706-1
Spike conc: 5.05E+002
Spike Vol: 1.00E+000

Duplicate Summary

| <u>TBE Sample ID</u> | <u>Radionuclide</u> | <u>Matrix</u> | <u>Count Date/Time</u> | <u>Original Result</u> | <u>DUP Result</u> | <u>Units</u> | <u>RPD</u> | <u>Range</u> | <u>Qualifier</u> | <u>P/F</u> |
|----------------------|---------------------|---------------|------------------------|------------------------|-------------------|--------------|------------|--------------|------------------|------------|
| WG4320-3 L29576-1 | H-3 (DIST) | WG | 08/15/2006 16:06 | < 1.830E+02 | < 1.860E+02 | pCi/L | | <30 | ** | NE |

+ Positive Result
U Compound/analyte was analyzed, peak not identified and/or not detected above MDC
* < 5 times the MDC are not evaluated
** Nuclide not detected
*** Spiking level < 5 times activity
P Pass
F Fail
NE Not evaluated

QC Summary Report

for L29576

8/16/2006 3:09:38PM



TOTAL SR

Method Blank Summary

| <u>TBE Sample ID</u> | <u>Radionuclide</u> | <u>Matrix</u> | <u>Count Date/Time</u> | <u>Blank Result</u> | <u>Units</u> | <u>Qualifier</u> | <u>P/F</u> |
|----------------------|---------------------|---------------|------------------------|---------------------|--------------|------------------|------------|
| WG4323-1 | TOTAL SR | WO | 08/15/2006 18:45 | < 7.680E-01 | pCi/Total | U | P |

LCS Sample Summary

| <u>TBE Sample ID</u> | <u>Radionuclide</u> | <u>Matrix</u> | <u>Count Date/Time</u> | <u>Spike Value</u> | <u>LCS Result</u> | <u>Units</u> | <u>Spike Recovery</u> | <u>Range</u> | <u>Qualifier</u> | <u>P/F</u> |
|----------------------|---------------------|---------------|------------------------|--------------------|-------------------|--------------|-----------------------|--------------|------------------|------------|
| WG4323-2 | TOTAL SR | WO | 08/15/2006 18:45 | 5.84E+001 | 6.350E+01 | pCi/Total | 108.8 | 70-130 | + | P |

Spike ID: 90SR-011905
Spike conc: 2.34E+002
Spike Vol: 2.50E-001

Duplicate Summary

| <u>TBE Sample ID</u> | <u>Radionuclide</u> | <u>Matrix</u> | <u>Count Date/Time</u> | <u>Original Result</u> | <u>DUP Result</u> | <u>Units</u> | <u>RPD</u> | <u>Range</u> | <u>Qualifier</u> | <u>P/F</u> |
|----------------------|---------------------|---------------|------------------------|------------------------|-------------------|--------------|------------|--------------|------------------|------------|
| WG4323-3 L29576-1 | TOTAL SR | WG | 08/15/2006 18:45 | < 1.440E+00 | < 1.700E+00 | pCi/L | | <30 | ** | NE |

Positive Result
Compound/analyte was analyzed, peak not identified and/or not detected above MDC
< 5 times the MDC are not evaluated
Nuclide not detected
Spiking level < 5 times activity
Pass
Fail
Not evaluated

Raw Data

| Work Order: <u>L29576</u> | | | | | | | | | | | | | | | | Customer: <u>Exelon</u> | | | | | | | | | | | | | | | |
|--|--------------|-----------|--------------------|-----------------------|----------------------|-----------------|----------|--------------------|---------------|-----------------|--------------------|---------------|-----------------|----------------|--------------------------------|------------------------------------|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|
| Nuclide: <u>H-3 (DIST)</u> | | | | | | | | | | | | | | | | Project : <u>EX001-3ESPDRES-06</u> | | | | | | | | | | | | | | | |
| Sample ID | Run Analysis | Reference | Volume/ Aliquot | Scavenge Date/time | Milking Date/time | Mount Weight | Recovery | Count Date/time | Counter ID | Total counts | Sample dt (min) | Bkg counts | Bkg dt (min) | Eff. Factor | Decay & Ingrowth Analyst | | | | | | | | | | | | | | | | |
| L29576-1 | H-3 DIST | | 10 ml | | | 0 | | 15-aug-06 17:10 | LS7 | 112 | 60 | 1.98 | 60 | .208 | DW | | | | | | | | | | | | | | | | |
| WG-DN-MW-DN-119S-081106-GL-017 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Activity: -2.6E+01 Error: 1.09E+02 MDC: 1.83E+02 * | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| L29576-2 | H-3 DIST | | 10 ml | | | 0 | | 15-aug-06 18:14 | LS7 | 376 | 42.81 | 1.98 | 60 | .209 | DW | | | | | | | | | | | | | | | | |
| WG-DN-MW-DN-119I-081106-GL-018 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Activity: 1.47E+03 * Error: 2.11E+02 MDC: 2.16E+02 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| L29576-3 | H-3 DIST | | 10 ml | | | 0 | | 15-aug-06 19:00 | LS7 | 152 | 60 | 1.98 | 60 | .211 | DW | | | | | | | | | | | | | | | | |
| WG-DN-MW-DN-115I-081106-GL-019 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Activity: 1.17E+02 Error: 1.17E+02 MDC: 1.81E+02 * | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| L29576-4 | H-3 DIST | | 10 ml | | | 0 | | 15-aug-06 20:03 | LS7 | 384 | 26.04 | 1.98 | 60 | .208 | DW | | | | | | | | | | | | | | | | |
| WG-DN-MW-DN-114S-081106-GL-020 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Activity: 2.77E+03 * Error: 3.36E+02 MDC: 2.79E+02 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| L29576-5 | H-3 DIST | | 10 ml | | | 0 | | 15-aug-06 20:32 | LS7 | 384 | 26.9 | 1.98 | 60 | .202 | DW | | | | | | | | | | | | | | | | |
| WG-DN-MW-DN-114S-081106-GL-021 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Activity: 2.74E+03 * Error: 3.35E+02 MDC: 2.82E+02 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |


Page: 2

Customer: Exelon

Project : EX001-3ESPDRES-06

Project : EX001-3ESPDRES-06

| Nuclide: <u>SR-90 (FAST)</u> | | | | | | | | | | Project : <u>EX001-3ESPDRES-06</u> | | | | | | | | | |
|---|-------|----------|---------------------|-----------------|---------------------|-------------------|--------------|--------------------|------------|------------------------------------|----------------|------------|-------------|-------------|-------------------------|---------|--|--|--|
| Sample ID | Run # | Analysis | Reference Date/time | Volume/ Aliquot | Scavenger Date/time | Milking Date/time | Mount Weight | Recovery Date/time | Counter ID | Total counts | Sample dt(min) | Bkg counts | Bkg dt(min) | Eff. Factor | Decay & Ingrowth Factor | Analyst | | | |
| L29576-1 | | TOTAL SR | 11-aug-06 09:00 | 450 ml | 15-aug-06 13:45 | | 0 | 90.11 18:45 | X3C | 65 | 80 | 294 | 400 | .345 | 1 | LCB | | | |
| WG-DN-MW-DN-119S-081106-GL-017 | | | | | | | | | | | | | | | | | | | |
| Activity: 2.5E-01 Error: 7.03E-01 MDC: 1.44E+00 * | | | | | | | | | | | | | | | | | | | |
| L29576-2 | | TOTAL SR | 11-aug-06 09:10 | 450 ml | 15-aug-06 13:45 | | 0 | 62.91 20:45 | X4C | 173 | 200 | 299 | 400 | .35 | 1 | LCB | | | |
| WG-DN-MW-DN-119I-081106-GL-018 | | | | | | | | | | | | | | | | | | | |
| Activity: 5.34E-01 Error: 7.15E-01 MDC: 1.29E+00 * | | | | | | | | | | | | | | | | | | | |
| L29576-3 | | TOTAL SR | 11-aug-06 11:30 | 450 ml | 15-aug-06 13:45 | | 0 | 50.27 20:45 | X4D | 147 | 200 | 340 | 400 | .353 | 1 | LCB | | | |
| WG-DN-MW-DN-115I-081106-GL-019 | | | | | | | | | | | | | | | | | | | |
| Activity: -6.49E-01 Error: 8.6E-01 MDC: 1.71E+00 * | | | | | | | | | | | | | | | | | | | |
| L29576-4 | | TOTAL SR | 11-aug-06 13:15 | 450 ml | 15-aug-06 13:45 | | 0 | 80.22 13:15 | X1A | 70 | 80 | 308 | 400 | .346 | 1 | LCB | | | |
| WG-DN-MW-DN-114S-081106-GL-020 | | | | | | | | | | | | | | | | | | | |
| Activity: 3.79E-01 Error: 8.18E-01 MDC: 1.65E+00 * | | | | | | | | | | | | | | | | | | | |
| L29576-5 | | TOTAL SR | 11-aug-06 13:40 | 450 ml | 15-aug-06 13:45 | | 0 | 97.25 13:15 | X1B | 63 | 80 | 342 | 400 | .343 | 1 | LCB | | | |
| WG-DN-MW-DN-114S-081106-GL-021 | | | | | | | | | | | | | | | | | | | |
| Activity: -2.02E-01 Error: 6.56E-01 MDC: 1.44E+00 * | | | | | | | | | | | | | | | | | | | |

Sec. Review: Analyst: LIMS: 

=====

VAX/VMS Teledyne/Brown Eng. Laboratory Gamma Report: 14-AUG-2006 18:09:21.12

TBE04 P-40312B HpGe ***** Aquisition Date/Time: 14-AUG-2006 15:33:36.58

LIMS No., Customer Name, Client ID: WG4314-1 WG EX/DRES

| | | | |
|---------------|-----------------|---------------|-----------------------|
| Sample ID | : 04WG4314-1 | Smple Date: | 11-AUG-2006 09:00:00. |
| Sample Type | : WG | Geometry | : 043L082004 |
| Quantity | : 2.86930E+00 L | BKGFILE | : 04BG072806MT |
| Start Channel | : 90 | Energy Tol | : 1.00000 |
| End Channel | : 4090 | Pk Srch Sens: | 5.00000 |
| MDA Constant | : 0.00 | Library Used: | LIBD |
| | | Real Time | : 0 02:35:34.31 |
| | | Live time | : 0 02:35:32.55 |

| Pk | It | Energy | Area | Bkgnd | FWHM | Channel | %Eff | Cts/Sec | %Err | Fit |
|----|----|----------|------|-------|------|---------|----------|----------|-------|----------|
| 1 | 1 | 66.24* | 68 | 277 | 1.23 | 133.41 | 6.61E-01 | 7.24E-03 | 44.0 | 1.55E+00 |
| 2 | 1 | 139.51* | 55 | 261 | 1.81 | 279.97 | 2.04E+00 | 5.85E-03 | 56.5 | 2.03E+00 |
| 3 | 1 | 198.35* | 64 | 197 | 1.09 | 397.67 | 1.87E+00 | 6.85E-03 | 41.2 | 1.10E+00 |
| 4 | 2 | 238.59* | 9 | 118 | 1.28 | 478.17 | 1.68E+00 | 1.01E-03 | 197.2 | 1.67E+00 |
| 5 | 2 | 242.12 | 84 | 134 | 1.35 | 485.24 | 1.66E+00 | 9.04E-03 | 26.7 | |
| 6 | 1 | 295.45* | 167 | 175 | 1.36 | 591.91 | 1.45E+00 | 1.79E-02 | 19.3 | 3.77E+00 |
| 7 | 1 | 351.83* | 294 | 135 | 1.21 | 704.67 | 1.28E+00 | 3.15E-02 | 10.1 | 7.17E-01 |
| 8 | 1 | 500.52 | 48 | 61 | 2.01 | 1002.05 | 9.85E-01 | 5.17E-03 | 33.9 | 4.98E+00 |
| 9 | 1 | 583.03* | 15 | 54 | 1.99 | 1167.08 | 8.77E-01 | 1.63E-03 | 97.9 | 3.29E+00 |
| 10 | 1 | 609.19* | 256 | 51 | 1.49 | 1219.39 | 8.49E-01 | 2.75E-02 | 8.5 | 1.51E+00 |
| 11 | 1 | 767.84 | 70 | 78 | 6.29 | 1536.66 | 7.10E-01 | 7.53E-03 | 36.4 | 4.61E+00 |
| 12 | 1 | 1120.04* | 75 | 15 | 2.43 | 2240.87 | 5.27E-01 | 8.01E-03 | 16.9 | 1.25E+00 |
| 13 | 1 | 1333.62 | 27 | 23 | 0.79 | 2667.84 | 4.60E-01 | 2.85E-03 | 36.6 | 6.84E+00 |
| 14 | 1 | 1378.88 | 53 | 16 | 1.58 | 2758.32 | 4.49E-01 | 5.67E-03 | 18.2 | 1.91E+01 |

Flag: "*" = Peak area was modified by background subtraction

Nuclide Line Activity Report

Nuclide Type: natural

| Nuclide | Energy | Area | %Abn | %Eff | Uncorrected pCi/L | Decay Corr pCi/L | 2-Sigma %Error |
|---------|--------|-------|--------|-----------|----------------------|---------------------|-------------------|
| TH-228 | 238.63 | 9 | 44.60* | 1.680E+00 | 1.269E+00 | 1.274E+00 | 394.44 |
| | 240.98 | ----- | 3.95 | 1.669E+00 | ----- | Line Not Found | ----- |

Flag: "*" = Keyline

Summary of Nuclide Activity

Page : 2

Sample ID : 04WG4314-1

Acquisition date : 14-AUG-2006 15:33:36

| | | |
|---|----|--------|
| Total number of lines in spectrum | 14 | |
| Number of unidentified lines | 12 | |
| Number of lines tentatively identified by NID | 2 | 14.29% |

Nuclide Type : natural

| Nuclide | Hlife | Decay | Uncorrected pCi/L | Decay Corr pCi/L | Decay Corr 2-Sigma Error | 2-Sigma %Error | Flags |
|------------------|-------|-------|----------------------|---------------------|-----------------------------|-------------------|-------|
| TH-228 | 1.91Y | 1.00 | 1.269E+00 | 1.274E+00 | 5.024E+00 | 394.44 | |
| Total Activity : | | | 1.269E+00 | 1.274E+00 | | | |

| | | |
|------------------------|-----------|-----------|
| Grand Total Activity : | 1.269E+00 | 1.274E+00 |
|------------------------|-----------|-----------|

Flags: "K" = Keyline not found
 "E" = Manually edited

"M" = Manually accepted
 "A" = Nuclide specific abn. limit

Unidentified Energy Lines
Sample ID : 04WG4314-1

Page : 3
Acquisition date : 14-AUG-2006 15:33:36

| It | Energy | Area | Bkgnd | FWHM | Channel | Left | Pw | Cts/Sec | %Err | %Eff | Flags |
|----|---------|------|-------|------|---------|------|----|----------|------|----------|-------|
| 1 | 66.24 | 68 | 277 | 1.23 | 133.41 | 130 | 7 | 7.24E-03 | 88.0 | 6.61E-01 | |
| 1 | 139.51 | 55 | 261 | 1.81 | 279.97 | 276 | 9 | 5.85E-03 | **** | 2.04E+00 | |
| 1 | 198.35 | 64 | 197 | 1.09 | 397.67 | 393 | 8 | 6.85E-03 | 82.4 | 1.87E+00 | |
| 2 | 242.12 | 84 | 134 | 1.35 | 485.24 | 475 | 20 | 9.04E-03 | 53.4 | 1.66E+00 | |
| 1 | 295.45 | 167 | 175 | 1.36 | 591.91 | 585 | 14 | 1.79E-02 | 38.6 | 1.45E+00 | |
| 1 | 351.83 | 294 | 135 | 1.21 | 704.67 | 698 | 12 | 3.15E-02 | 20.2 | 1.28E+00 | |
| 1 | 500.52 | 48 | 61 | 2.01 | 1002.05 | 996 | 11 | 5.17E-03 | 67.7 | 9.85E-01 | |
| 1 | 583.03 | 15 | 54 | 1.99 | 1167.08 | 1165 | 10 | 1.63E-03 | **** | 8.77E-01 | T |
| 1 | 609.19 | 256 | 51 | 1.49 | 1219.39 | 1215 | 10 | 2.75E-02 | 17.0 | 8.49E-01 | |
| 1 | 767.84 | 70 | 78 | 6.29 | 1536.66 | 1528 | 26 | 7.53E-03 | 72.9 | 7.10E-01 | |
| 1 | 1120.04 | 75 | 15 | 2.43 | 2240.87 | 2232 | 15 | 8.01E-03 | 33.9 | 5.27E-01 | |
| 1 | 1333.62 | 27 | 23 | 0.79 | 2667.84 | 2663 | 11 | 2.85E-03 | 73.2 | 4.60E-01 | |
| 1 | 1378.88 | 53 | 16 | 1.58 | 2758.32 | 2750 | 14 | 5.67E-03 | 36.3 | 4.49E-01 | |

Flags: "T" = Tentatively associated

Summary of Nuclide Activity

| | | |
|---|----|--------|
| Total number of lines in spectrum | 14 | |
| Number of unidentified lines | 12 | |
| Number of lines tentatively identified by NID | 2 | 14.29% |

Nuclide Type : natural

| Nuclide | Hlife | Decay | Wtd Mean Uncorrected pCi/L | Wtd Mean Decay Corr pCi/L | Decay Corr 2-Sigma Error | 2-Sigma %Error | Flags |
|------------------|-------|-------|----------------------------------|---------------------------------|-----------------------------|-------------------|-------|
| TH-228 | 1.91Y | 1.00 | 1.269E+00 | 1.274E+00 | 5.024E+00 | 394.44 | |
| Total Activity : | | | 1.269E+00 | 1.274E+00 | | | |

Grand Total Activity : 1.269E+00 1.274E+00

Flags: "K" = Keyline not found "M" = Manually accepted
"E" = Manually edited "A" = Nuclide specific abn. limit

Interference Report

No interference correction performed

Combined Activity-MDA Report

---- Identified Nuclides ----


| Nuclide | Activity (pCi/L) | Act error | MDA (pCi/L) | MDA error | Act/MDA |
|---------|---------------------|-----------|----------------|-----------|---------|
| TH-228 | 1.274E+00 | 5.024E+00 | 7.331E+00 | 0.000E+00 | 0.174 |

---- Non-Identified Nuclides ----

| Key-Line Activity | K.L. | Act error | MDA | MDA error | Act/MDA |
|----------------------|------|-----------|-----|-----------|---------|
|----------------------|------|-----------|-----|-----------|---------|

| Nuclide | (pCi/L) | Ided | (pCi/L) | | |
|---------|------------|-----------|-----------|-----------|--------|
| BE-7 | -2.755E+00 | 2.164E+01 | 3.536E+01 | 0.000E+00 | -0.078 |
| NA-24 | 4.371E+01 | 9.208E+01 | 1.634E+02 | 0.000E+00 | 0.268 |
| K-40 | 1.511E+01 | 4.610E+01 | 8.959E+01 | 0.000E+00 | 0.169 |
| CR-51 | 8.884E+00 | 2.103E+01 | 3.659E+01 | 0.000E+00 | 0.243 |
| MN-54 | -9.052E-01 | 2.562E+00 | 4.144E+00 | 0.000E+00 | -0.218 |
| CO-57 | 5.863E-01 | 2.247E+00 | 3.758E+00 | 0.000E+00 | 0.156 |
| CO-58 | -2.668E+00 | 2.768E+00 | 3.845E+00 | 0.000E+00 | -0.694 |
| FE-59 | -1.928E+00 | 5.209E+00 | 8.167E+00 | 0.000E+00 | -0.236 |
| CO-60 | -1.749E-01 | 3.827E+00 | 6.063E+00 | 0.000E+00 | -0.029 |
| ZN-65 | -3.371E+00 | 6.123E+00 | 7.708E+00 | 0.000E+00 | -0.437 |
| SE-75 | -1.930E+00 | 3.366E+00 | 5.119E+00 | 0.000E+00 | -0.377 |
| SR-85 | -9.137E+00 | 3.589E+00 | 4.911E+00 | 0.000E+00 | -1.861 |
| Y-88 | -9.726E-01 | 2.592E+00 | 3.949E+00 | 0.000E+00 | -0.246 |
| NB-94 | 7.515E-01 | 2.565E+00 | 4.267E+00 | 0.000E+00 | 0.176 |
| NB-95 | 2.416E+00 | 2.917E+00 | 5.087E+00 | 0.000E+00 | 0.475 |
| ZR-95 | 3.095E+00 | 4.615E+00 | 7.998E+00 | 0.000E+00 | 0.387 |
| MO-99 | -1.020E+01 | 4.225E+01 | 6.569E+01 | 0.000E+00 | -0.155 |
| RU-103 | -2.411E+00 | 2.990E+00 | 3.854E+00 | 0.000E+00 | -0.626 |
| RU-106 | -1.636E+01 | 2.458E+01 | 3.704E+01 | 0.000E+00 | -0.442 |
| AG-110m | -2.410E+00 | 2.350E+00 | 3.297E+00 | 0.000E+00 | -0.731 |
| SN-113 | 1.105E+00 | 3.251E+00 | 5.578E+00 | 0.000E+00 | 0.198 |
| SB-124 | -6.147E-01 | 2.827E+00 | 4.342E+00 | 0.000E+00 | -0.142 |
| SB-125 | -3.729E+00 | 7.282E+00 | 1.160E+01 | 0.000E+00 | -0.321 |
| TE-129M | 1.207E+01 | 3.460E+01 | 5.880E+01 | 0.000E+00 | 0.205 |
| I-131 | 2.835E-01 | 3.322E+00 | 5.614E+00 | 0.000E+00 | 0.051 |
| BA-133 | -1.722E+00 | 3.965E+00 | 5.624E+00 | 0.000E+00 | -0.306 |
| CS-134 | 1.737E+00 | 2.903E+00 | 4.468E+00 | 0.000E+00 | 0.389 |
| CS-136 | -1.219E+00 | 2.807E+00 | 4.490E+00 | 0.000E+00 | -0.271 |
| CS-137 | 8.150E-01 | 2.701E+00 | 4.524E+00 | 0.000E+00 | 0.180 |
| CE-139 | 1.110E+00 | 2.368E+00 | 3.956E+00 | 0.000E+00 | 0.281 |
| BA-140 | -6.404E+00 | 1.041E+01 | 1.599E+01 | 0.000E+00 | -0.401 |
| LA-140 | 6.395E-01 | 3.457E+00 | 5.978E+00 | 0.000E+00 | 0.107 |
| CE-141 | 8.376E-02 | 4.373E+00 | 7.171E+00 | 0.000E+00 | 0.012 |
| CE-144 | -1.237E+01 | 1.856E+01 | 2.947E+01 | 0.000E+00 | -0.420 |
| EU-152 | 1.241E+00 | 8.223E+00 | 1.399E+01 | 0.000E+00 | 0.089 |
| EU-154 | -4.136E-01 | 4.659E+00 | 7.649E+00 | 0.000E+00 | -0.054 |
| RA-226 | -8.241E-01 | 6.733E+01 | 1.115E+02 | 0.000E+00 | -0.007 |
| AC-228 | -1.352E+01 | 1.066E+01 | 1.613E+01 | 0.000E+00 | -0.838 |
| TH-232 | -1.351E+01 | 1.065E+01 | 1.611E+01 | 0.000E+00 | -0.838 |
| U-235 | 1.444E+00 | 2.075E+01 | 3.054E+01 | 0.000E+00 | 0.047 |
| U-238 | -2.532E+01 | 2.768E+02 | 4.546E+02 | 0.000E+00 | -0.056 |
| AM-241 | -1.886E+01 | 2.387E+01 | 3.881E+01 | 0.000E+00 | -0.486 |

A,04WG4314-1 ,08/14/2006 18:09,08/11/2006 09:00, 2.869E+00,WG4314-1 WG EX
 B,04WG4314-1 ,LIBD ,08/14/2006 09:43,043L082004
 C,TH-228 ,YES, 1.274E+00, 5.024E+00, 7.331E+00,, 0.174
 C,BE-7 ,NO , -2.755E+00, 2.164E+01, 3.536E+01,, -0.078
 C,NA-24 ,NO , 4.371E+01, 9.208E+01, 1.634E+02,, 0.268
 C,K-40 ,NO , 1.511E+01, 4.610E+01, 8.959E+01,, 0.169
 C,CR-51 ,NO , 8.884E+00, 2.103E+01, 3.659E+01,, 0.243
 C,MN-54 ,NO , -9.052E-01, 2.562E+00, 4.144E+00,, -0.218
 C,CO-57 ,NO , 5.863E-01, 2.247E+00, 3.758E+00,, 0.156
 C,CO-58 ,NO , -2.668E+00, 2.768E+00, 3.845E+00,, -0.694
 C,FE-59 ,NO , -1.928E+00, 5.209E+00, 8.167E+00,, -0.236
 C,CO-60 ,NO , -1.749E-01, 3.827E+00, 6.063E+00,, -0.029
 C,ZN-65 ,NO , -3.371E+00, 6.123E+00, 7.708E+00,, -0.437
 C,SE-75 ,NO , -1.930E+00, 3.366E+00, 5.119E+00,, -0.377
 C,SR-85 ,NO , -9.137E+00, 3.589E+00, 4.911E+00,, -1.861
 C,Y-88 ,NO , -9.726E-01, 2.592E+00, 3.949E+00,, -0.246
 C,NB-94 ,NO , 7.515E-01, 2.565E+00, 4.267E+00,, 0.176
 C,NB-95 ,NO , 2.416E+00, 2.917E+00, 5.087E+00,, 0.475
 C,ZR-95 ,NO , 3.095E+00, 4.615E+00, 7.998E+00,, 0.387
 C,MO-99 ,NO , -1.020E+01, 4.225E+01, 6.569E+01,, -0.155
 C,RU-103 ,NO , -2.411E+00, 2.990E+00, 3.854E+00,, -0.626
 C,RU-106 ,NO , -1.636E+01, 2.458E+01, 3.704E+01,, -0.442
 C,AG-110m ,NO , -2.410E+00, 2.350E+00, 3.297E+00,, -0.731
 C,SN-113 ,NO , 1.105E+00, 3.251E+00, 5.578E+00,, 0.198
 C,SB-124 ,NO , -6.147E-01, 2.827E+00, 4.342E+00,, -0.142
 C,SB-125 ,NO , -3.729E+00, 7.282E+00, 1.160E+01,, -0.321
 C,TE-129M ,NO , 1.207E+01, 3.460E+01, 5.880E+01,, 0.205
 C,I-131 ,NO , 2.835E-01, 3.322E+00, 5.614E+00,, 0.051
 C,BA-133 ,NO , -1.722E+00, 3.965E+00, 5.624E+00,, -0.306
 C,CS-134 ,NO , 1.737E+00, 2.903E+00, 4.468E+00,, 0.389
 C,CS-136 ,NO , -1.219E+00, 2.807E+00, 4.490E+00,, -0.271
 C,CS-137 ,NO , 8.150E-01, 2.701E+00, 4.524E+00,, 0.180
 C,CE-139 ,NO , 1.110E+00, 2.368E+00, 3.956E+00,, 0.281
 C,BA-140 ,NO , -6.404E+00, 1.041E+01, 1.599E+01,, -0.401
 C,LA-140 ,NO , 6.395E-01, 3.457E+00, 5.978E+00,, 0.107
 C,CE-141 ,NO , 8.376E-02, 4.373E+00, 7.171E+00,, 0.012
 C,CE-144 ,NO , -1.237E+01, 1.856E+01, 2.947E+01,, -0.420
 C,EU-152 ,NO , 1.241E+00, 8.223E+00, 1.399E+01,, 0.089
 C,EU-154 ,NO , -4.136E-01, 4.659E+00, 7.649E+00,, -0.054
 C,RA-226 ,NO , -8.241E-01, 6.733E+01, 1.115E+02,, -0.007
 C,AC-228 ,NO , -1.352E+01, 1.066E+01, 1.613E+01,, -0.838
 C,TH-232 ,NO , -1.351E+01, 1.065E+01, 1.611E+01,, -0.838
 C,U-235 ,NO , 1.444E+00, 2.075E+01, 3.054E+01,, 0.047
 C,U-238 ,NO , -2.532E+01, 2.768E+02, 4.546E+02,, -0.056
 C,AM-241 ,NO , -1.886E+01, 2.387E+01, 3.881E+01,, -0.486

Sec. Review: Analyst: LIMS: 

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VAX/VMS Teledyne Brown Eng. Laboratory Gamma Report: 14-AUG-2006 15:00:14.00

TBE07 P-10768B HpGe ***** Aquisition Date/Time: 14-AUG-2006 13:45:04.91

LIMS No., Customer Name, Client ID: L29576-1 WG EX/DRES

| | | | |
|---------------|-----------------|---------------|-----------------------|
| Sample ID | : 07L29576-1 | Smple Date: | 11-AUG-2006 09:00:00. |
| Sample Type | : WG | Geometry | : 073L082504 |
| Quantity | : 2.86930E+00 L | BKGFILE | : 07BG072806MT |
| Start Channel | : 40 | Energy Tol | : 1.00000 |
| End Channel | : 4090 | Pk Srch Sens: | 5.00000 |
| MDA Constant | : 0.00 | Library Used: | LIBD |
| | | Real Time | : 0 01:15:02.30 |
| | | Live time | : 0 01:15:01.31 |

| Pk | It | Energy | Area | Bkgnd | FWHM | Channel | %Eff | Cts/Sec | %Err | Fit |
|----|----|----------|------|-------|------|---------|----------|----------|-------|----------|
| 1 | 1 | 295.08* | 109 | 81 | 1.50 | 591.69 | 1.81E+00 | 2.43E-02 | 18.8 | 2.79E+00 |
| 2 | 1 | 351.96* | 149 | 100 | 1.36 | 705.58 | 1.61E+00 | 3.30E-02 | 17.7 | 2.67E+00 |
| 3 | 1 | 583.29* | 19 | 19 | 1.97 | 1168.68 | 1.12E+00 | 4.14E-03 | 57.6 | 8.18E-01 |
| 4 | 1 | 595.82 | 35 | 15 | 2.09 | 1193.77 | 1.10E+00 | 7.87E-03 | 25.7 | 8.87E+00 |
| 5 | 1 | 609.21* | 160 | 48 | 1.49 | 1220.58 | 1.09E+00 | 3.54E-02 | 12.3 | 3.70E+00 |
| 6 | 1 | 769.56 | 10 | 31 | 2.22 | 1541.50 | 9.19E-01 | 2.28E-03 | 124.4 | 2.85E+00 |
| 7 | 1 | 910.97* | 14 | 9 | 2.48 | 1824.47 | 8.14E-01 | 3.00E-03 | 57.1 | 1.14E+00 |
| 8 | 1 | 1120.17* | 29 | 15 | 1.60 | 2243.04 | 7.03E-01 | 6.34E-03 | 32.7 | 5.16E-01 |
| 9 | 1 | 1259.93 | 14 | 7 | 1.61 | 2522.61 | 6.47E-01 | 3.08E-03 | 44.4 | 3.52E-01 |
| 10 | 1 | 1376.99* | 33 | 10 | 6.83 | 2756.72 | 6.07E-01 | 7.29E-03 | 24.9 | 1.37E+00 |
| 11 | 1 | 1765.17* | 24 | 7 | 2.14 | 3532.90 | 5.12E-01 | 5.27E-03 | 33.2 | 6.64E-01 |

Flag: "*" = Peak area was modified by background subtraction

Nuclide Line Activity Report

Nuclide Type: natural

| Nuclide | Energy | Area | %Abn | %Eff | Uncorrected pCi/L | Decay Corr pCi/L | 2-Sigma %Error |
|---------|--------|-------|--------|-----------|----------------------|---------------------|-------------------|
| AC-228 | 835.50 | ----- | 1.75 | 8.662E-01 | ----- | Line Not Found | ----- |
| | 911.07 | 14 | 27.70* | 8.145E-01 | 1.254E+01 | 1.255E+01 | 114.20 |
| TH-232 | 583.14 | 19 | 30.25 | 1.120E+00 | 1.151E+01 | 1.151E+01 | 115.20 |
| | 911.07 | 14 | 27.70* | 8.145E-01 | 1.254E+01 | 1.254E+01 | 114.20 |
| | 969.11 | ----- | 16.60 | 7.793E-01 | ----- | Line Not Found | ----- |

Flag: "*" = Keyline

Summary of Nuclide Activity

Page : 2

Sample ID : 07L29576-1

Acquisition date : 14-AUG-2006 13:45:04

| | | |
|---|----|--------|
| Total number of lines in spectrum | 11 | |
| Number of unidentified lines | 9 | |
| Number of lines tentatively identified by NID | 2 | 18.18% |

Nuclide Type : natural

| Nuclide | Hlife | Decay | Uncorrected pCi/L | Decay Corr pCi/L | Decay Corr 2-Sigma Error | 2-Sigma %Error | Flags |
|------------------|-----------|-------|----------------------|---------------------|-----------------------------|-------------------|-------|
| AC-228 | 5.75Y | 1.00 | 1.254E+01 | 1.255E+01 | 1.434E+01 | 114.20 | |
| TH-232 | 1.41E+10Y | 1.00 | 1.254E+01 | 1.254E+01 | 1.432E+01 | 114.20 | |
| Total Activity : | | | 2.508E+01 | 2.509E+01 | | | |

Grand Total Activity : 2.508E+01 2.509E+01

Flags: "K" = Keyline not found
 "E" = Manually edited

"M" = Manually accepted
 "A" = Nuclide specific abn. limit

Unidentified Energy Lines

Page : 3

Sample ID : 07L29576-1

Acquisition date : 14-AUG-2006 13:45:04

| It | Energy | Area | Bkgnd | FWHM | Channel | Left | Pw | Cts/Sec | %Err | %Eff | Flags |
|----|---------|------|-------|------|---------|------|----|----------|------|----------|-------|
| 1 | 295.08 | 109 | 81 | 1.50 | 591.69 | 588 | 10 | 2.43E-02 | 37.5 | 1.81E+00 | |
| 1 | 351.96 | 149 | 100 | 1.36 | 705.58 | 700 | 14 | 3.30E-02 | 35.4 | 1.61E+00 | |
| 1 | 595.82 | 35 | 15 | 2.09 | 1193.77 | 1190 | 8 | 7.87E-03 | 51.4 | 1.10E+00 | |
| 1 | 609.21 | 160 | 48 | 1.49 | 1220.58 | 1214 | 13 | 3.54E-02 | 24.6 | 1.09E+00 | |
| 1 | 769.56 | 10 | 31 | 2.22 | 1541.50 | 1532 | 14 | 2.28E-03 | **** | 9.19E-01 | |
| 1 | 1120.17 | 29 | 15 | 1.60 | 2243.04 | 2238 | 9 | 6.34E-03 | 65.4 | 7.03E-01 | |
| 1 | 1259.93 | 14 | 7 | 1.61 | 2522.61 | 2516 | 10 | 3.08E-03 | 88.8 | 6.47E-01 | |
| 1 | 1376.99 | 33 | 10 | 6.83 | 2756.72 | 2748 | 14 | 7.29E-03 | 49.8 | 6.07E-01 | |
| 1 | 1765.17 | 24 | 7 | 2.14 | 3532.90 | 3525 | 13 | 5.27E-03 | 66.5 | 5.12E-01 | |

Flags: "T" = Tentatively associated

Summary of Nuclide Activity

Total number of lines in spectrum 11
 Number of unidentified lines 9
 Number of lines tentatively identified by NID 2 18.18%

Nuclide Type : natural

| Nuclide | Hlife | Decay | Wtd Mean | Wtd Mean | Decay Corr | 2-Sigma | Error | 2-Sigma | %Error | Flags |
|------------------|-----------|-------|--------------------|--------------------|------------|---------|-----------|---------|--------|-------|
| | | | Uncorrected | Decay Corr | | | | | | |
| TH-232 | 1.41E+10Y | 1.00 | pCi/L 1.198E+01 | pCi/L 1.198E+01 | | | 0.973E+01 | | 81.18 | |
| Total Activity : | | | 1.198E+01 | 1.198E+01 | | | | | | |

Grand Total Activity : 1.198E+01 1.198E+01

Flags: "K" = Keyline not found "M" = Manually accepted
 "E" = Manually edited "A" = Nuclide specific abn. limit

Interference Report

| Interfering | | Interfered | |
|-------------|--------|------------|--------|
| Nuclide | Line | Nuclide | Line |
| TH-232 | 911.07 | AC-228 | 911.07 |

Combined Activity-MDA Report

---- Identified Nuclides ----

| Nuclide | Activity (pCi/L) | Act error | MDA (pCi/L) | MDA error | Act/MDA |
|---------|---------------------|-----------|----------------|-----------|---------|
| TH-232 | 1.198E+01 | 9.728E+00 | 2.056E+01 | 0.000E+00 | 0.583 |

---- Non-Identified Nuclides ----

| Nuclide | Key-Line Activity (pCi/L) | K.L. Ided | Act error | MDA (pCi/L) | MDA error | Act/MDA |
|---------|---------------------------------|--------------|-----------|----------------|-----------|---------|
|---------|---------------------------------|--------------|-----------|----------------|-----------|---------|

| | | | | | |
|---------|------------|-----------|-----------|-----------|--------|
| BE-7 | 1.315E+01 | 2.579E+01 | 4.588E+01 | 0.000E+00 | 0.287 |
| NA-24 | 1.005E+01 | 1.536E+02 | 2.192E+02 | 0.000E+00 | 0.046 |
| K-40 | -2.289E+01 | 5.117E+01 | 1.008E+02 | 0.000E+00 | -0.227 |
| CR-51 | 3.107E+00 | 3.139E+01 | 5.167E+01 | 0.000E+00 | 0.060 |
| MN-54 | -4.422E-01 | 3.519E+00 | 5.603E+00 | 0.000E+00 | -0.079 |
| CO-57 | -1.405E+00 | 3.412E+00 | 5.266E+00 | 0.000E+00 | -0.267 |
| CO-58 | 6.647E-01 | 3.610E+00 | 6.020E+00 | 0.000E+00 | 0.110 |
| FE-59 | 7.497E-01 | 6.626E+00 | 1.122E+01 | 0.000E+00 | 0.067 |
| CO-60 | -3.851E-01 | 3.253E+00 | 5.198E+00 | 0.000E+00 | -0.074 |
| ZN-65 | -1.889E+00 | 8.249E+00 | 1.115E+01 | 0.000E+00 | -0.169 |
| SE-75 | 2.235E-02 | 4.723E+00 | 7.792E+00 | 0.000E+00 | 0.003 |
| SR-85 | -7.707E+00 | 4.662E+00 | 6.843E+00 | 0.000E+00 | -1.126 |
| Y-88 | -7.329E-01 | 3.158E+00 | 4.911E+00 | 0.000E+00 | -0.149 |
| NB-94 | 1.694E+00 | 3.477E+00 | 6.043E+00 | 0.000E+00 | 0.280 |
| NB-95 | 1.729E+00 | 4.381E+00 | 6.616E+00 | 0.000E+00 | 0.261 |
| ZR-95 | -1.950E+00 | 6.168E+00 | 9.619E+00 | 0.000E+00 | -0.203 |
| MO-99 | -7.428E+00 | 5.486E+01 | 8.799E+01 | 0.000E+00 | -0.084 |
| RU-103 | -2.195E-01 | 3.415E+00 | 5.697E+00 | 0.000E+00 | -0.039 |
| RU-106 | -2.799E+01 | 3.179E+01 | 4.661E+01 | 0.000E+00 | -0.600 |
| AG-110m | -1.196E+00 | 3.341E+00 | 5.252E+00 | 0.000E+00 | -0.228 |
| SN-113 | -2.265E+00 | 4.739E+00 | 7.265E+00 | 0.000E+00 | -0.312 |
| SB-124 | -2.354E+00 | 3.998E+00 | 5.177E+00 | 0.000E+00 | -0.455 |
| SB-125 | -1.460E+01 | 1.063E+01 | 1.435E+01 | 0.000E+00 | -1.017 |
| TE-129M | -5.072E+00 | 3.817E+01 | 5.986E+01 | 0.000E+00 | -0.085 |
| I-131 | 2.174E+00 | 4.427E+00 | 7.527E+00 | 0.000E+00 | 0.289 |
| BA-133 | 2.421E+00 | 4.885E+00 | 7.429E+00 | 0.000E+00 | 0.326 |
| CS-134 | -4.017E-01 | 3.653E+00 | 5.159E+00 | 0.000E+00 | -0.078 |
| CS-136 | 1.475E+00 | 4.183E+00 | 7.126E+00 | 0.000E+00 | 0.207 |
| CS-137 | 3.315E+00 | 3.690E+00 | 6.752E+00 | 0.000E+00 | 0.491 |
| CE-139 | -2.591E+00 | 3.346E+00 | 5.376E+00 | 0.000E+00 | -0.482 |
| BA-140 | -8.089E+00 | 1.187E+01 | 1.796E+01 | 0.000E+00 | -0.450 |
| LA-140 | -1.394E+00 | 4.418E+00 | 6.595E+00 | 0.000E+00 | -0.211 |
| CE-141 | -1.697E-01 | 6.021E+00 | 1.020E+01 | 0.000E+00 | -0.017 |
| CE-144 | -2.113E+01 | 2.843E+01 | 4.274E+01 | 0.000E+00 | -0.494 |
| EU-152 | 1.509E+00 | 1.129E+01 | 1.857E+01 | 0.000E+00 | 0.081 |
| EU-154 | -6.880E+00 | 7.179E+00 | 1.060E+01 | 0.000E+00 | -0.649 |
| RA-226 | 7.164E-01 | 8.601E+01 | 1.523E+02 | 0.000E+00 | 0.005 |
| AC-228 | 1.255E+01 | 1.434E+01 | 2.725E+01 | 0.000E+00 | 0.461 |
| TH-228 | -4.886E+00 | 7.827E+00 | 1.309E+01 | 0.000E+00 | -0.373 |
| U-235 | -8.375E+00 | 2.886E+01 | 4.505E+01 | 0.000E+00 | -0.186 |
| U-238 | -2.042E+02 | 3.627E+02 | 5.576E+02 | 0.000E+00 | -0.366 |
| AM-241 | -1.544E+01 | 3.039E+01 | 4.791E+01 | 0.000E+00 | -0.322 |

A,07L29576-1 ,08/14/2006 15:00,08/11/2006 09:00, 2.869E+00,L29576-1 WG EX
 B,07L29576-1 ,LIBD ,08/14/2006 09:44,073L082504
 C,TH-232 ,YES, 1.198E+01, 9.728E+00, 2.056E+01,, 0.583
 C,BE-7 ,NO , 1.315E+01, 2.579E+01, 4.588E+01,, 0.287
 C,NA-24 ,NO , 1.005E+01, 1.536E+02, 2.192E+02,, 0.046
 C,K-40 ,NO , -2.289E+01, 5.117E+01, 1.008E+02,, -0.227
 C,CR-51 ,NO , 3.107E+00, 3.139E+01, 5.167E+01,, 0.060
 C,MN-54 ,NO , -4.422E-01, 3.519E+00, 5.603E+00,, -0.079
 C,CO-57 ,NO , -1.405E+00, 3.412E+00, 5.266E+00,, -0.267
 C,CO-58 ,NO , 6.647E-01, 3.610E+00, 6.020E+00,, 0.110
 C,FE-59 ,NO , 7.497E-01, 6.626E+00, 1.122E+01,, 0.067
 C,CO-60 ,NO , -3.851E-01, 3.253E+00, 5.198E+00,, -0.074
 C,ZN-65 ,NO , -1.889E+00, 8.249E+00, 1.115E+01,, -0.169
 C,SE-75 ,NO , 2.235E-02, 4.723E+00, 7.792E+00,, 0.003
 C,SR-85 ,NO , -7.707E+00, 4.662E+00, 6.843E+00,, -1.126
 C,Y-88 ,NO , -7.329E-01, 3.158E+00, 4.911E+00,, -0.149
 C,NB-94 ,NO , 1.694E+00, 3.477E+00, 6.043E+00,, 0.280
 C,NB-95 ,NO , 1.729E+00, 4.381E+00, 6.616E+00,, 0.261
 C,ZR-95 ,NO , -1.950E+00, 6.168E+00, 9.619E+00,, -0.203
 C,MO-99 ,NO , -7.428E+00, 5.486E+01, 8.799E+01,, -0.084
 C,RU-103 ,NO , -2.195E-01, 3.415E+00, 5.697E+00,, -0.039
 C,RU-106 ,NO , -2.799E+01, 3.179E+01, 4.661E+01,, -0.600
 C,AG-110m ,NO , -1.196E+00, 3.341E+00, 5.252E+00,, -0.228
 C,SN-113 ,NO , -2.265E+00, 4.739E+00, 7.265E+00,, -0.312
 C,SB-124 ,NO , -2.354E+00, 3.998E+00, 5.177E+00,, -0.455
 C,SB-125 ,NO , -1.460E+01, 1.063E+01, 1.435E+01,, -1.017
 C,TE-129M ,NO , -5.072E+00, 3.817E+01, 5.986E+01,, -0.085
 C,I-131 ,NO , 2.174E+00, 4.427E+00, 7.527E+00,, 0.289
 C,BA-133 ,NO , 2.421E+00, 4.885E+00, 7.429E+00,, 0.326
 C,CS-134 ,NO , -4.017E-01, 3.653E+00, 5.159E+00,, -0.078
 C,CS-136 ,NO , 1.475E+00, 4.183E+00, 7.126E+00,, 0.207
 C,CS-137 ,NO , 3.315E+00, 3.690E+00, 6.752E+00,, 0.491
 C,CE-139 ,NO , -2.591E+00, 3.346E+00, 5.376E+00,, -0.482
 C,BA-140 ,NO , -8.089E+00, 1.187E+01, 1.796E+01,, -0.450
 C,LA-140 ,NO , -1.394E+00, 4.418E+00, 6.595E+00,, -0.211
 C,CE-141 ,NO , -1.697E-01, 6.021E+00, 1.020E+01,, -0.017
 C,CE-144 ,NO , -2.113E+01, 2.843E+01, 4.274E+01,, -0.494
 C,EU-152 ,NO , 1.509E+00, 1.129E+01, 1.857E+01,, 0.081
 C,EU-154 ,NO , -6.880E+00, 7.179E+00, 1.060E+01,, -0.649
 C,RA-226 ,NO , 7.164E-01, 8.601E+01, 1.523E+02,, 0.005
 C,AC-228 ,NO , 1.255E+01, 1.434E+01, 2.725E+01,, 0.461
 C,TH-228 ,NO , -4.886E+00, 7.827E+00, 1.309E+01,, -0.373
 C,U-235 ,NO , -8.375E+00, 2.886E+01, 4.505E+01,, -0.186
 C,U-238 ,NO , -2.042E+02, 3.627E+02, 5.576E+02,, -0.366
 C,AM-241 ,NO , -1.544E+01, 3.039E+01, 4.791E+01,, -0.322

Sec. Review: Analyst: LIMS: ✓

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VAX/VMS Teledyne Brown Eng. Laboratory Gamma Report: 14-AUG-2006 15:59:59.05
 TBE23 03017322 HpGe ***** Aquisition Date/Time: 14-AUG-2006 14:21:18.76

LIMS No., Customer Name, Client ID: L29576-2 WG EX/DRES

| | | | |
|---------------|-----------------|---------------|-----------------------|
| Sample ID | : 23L29576-2 | Smple Date: | 11-AUG-2006 09:10:00. |
| Sample Type | : WG | Geometry | : 233L082404 |
| Quantity | : 3.13700E+00 L | BKGFILE | : 23BG072806MT |
| Start Channel | : 50 | Energy Tol | : 1.00000 |
| End Channel | : 4090 | Pk Srch Sens: | 5.00000 |
| MDA Constant | : 0.00 | Library Used: | LIBD |
| | | Real Time | : 0 01:36:04.63 |
| | | Live time | : 0 01:36:00.83 |

| Pk | It | Energy | Area | Bkgnd | FWHM | Channel | %Eff | Cts/Sec | %Err | Fit |
|----|----|----------|------|-------|------|---------|----------|----------|-------|----------|
| 1 | 5 | 33.70* | 26 | 10 | 1.09 | 67.70 | 8.12E-02 | 4.43E-03 | 53.7 | 2.55E+00 |
| 2 | 5 | 37.11* | 40 | 68 | 1.60 | 74.50 | 1.40E-01 | 7.00E-03 | 49.0 | |
| 3 | 0 | 139.01 | 51 | 185 | 0.97 | 278.08 | 2.32E+00 | 8.93E-03 | 47.6 | |
| 4 | 0 | 351.88* | 30 | 77 | 0.97 | 703.46 | 1.43E+00 | 5.16E-03 | 61.0 | |
| 5 | 0 | 596.10 | 51 | 40 | 0.64 | 1191.72 | 9.56E-01 | 8.91E-03 | 28.8 | |
| 6 | 0 | 610.12* | 11 | 64 | 1.80 | 1219.75 | 9.39E-01 | 1.90E-03 | 156.0 | |
| 7 | 0 | 1120.12* | 13 | 21 | 1.08 | 2240.22 | 6.16E-01 | 2.29E-03 | 82.9 | |
| 8 | 0 | 1460.71* | 8 | 0 | 1.64 | 2922.32 | 5.10E-01 | 1.46E-03 | 100.7 | |
| 9 | 0 | 1764.28* | 8 | 11 | 0.55 | 3530.71 | 4.38E-01 | 1.40E-03 | 109.4 | |

Flag: "*" = Peak area was modified by background subtraction

Nuclide Line Activity Report

Nuclide Type: natural

| Nuclide | Energy | Area | %Abn | %Eff | Uncorrected pCi/L | Decay Corr pCi/L | 2-Sigma %Error |
|---------|---------|------|--------|-----------|----------------------|---------------------|-------------------|
| K-40 | 1460.81 | 8 | 10.67* | 5.096E-01 | 2.310E+01 | 2.310E+01 | 201.42 |

Flag: "*" = Keyline

Summary of Nuclide Activity

Page : 2

Sample ID : 23L29576-2

Acquisition date : 14-AUG-2006 14:21:18

| | | |
|---|---|--------|
| Total number of lines in spectrum | 9 | |
| Number of unidentified lines | 8 | |
| Number of lines tentatively identified by NID | 1 | 11.11% |

Nuclide Type : natural

| Nuclide | Hlife | Decay | Uncorrected pCi/L | Decay Corr pCi/L | Decay Corr 2-Sigma Error | 2-Sigma %Error | Flags |
|---------|-----------|------------------|----------------------|---------------------|-----------------------------|-------------------|-------|
| K-40 | 1.28E+09Y | 1.00 | 2.310E+01 | 2.310E+01 | 4.652E+01 | 201.42 | |
| | | | ----- | ----- | | | |
| | | Total Activity : | 2.310E+01 | 2.310E+01 | | | |

| | | |
|------------------------|-----------|-----------|
| Grand Total Activity : | 2.310E+01 | 2.310E+01 |
|------------------------|-----------|-----------|

Flags: "K" = Keyline not found
 "E" = Manually edited

"M" = Manually accepted
 "A" = Nuclide specific abn. limit

Unidentified Energy Lines
Sample ID : 23L29576-2

Page : 3
Acquisition date : 14-AUG-2006 14:21:18

| It | Energy | Area | Bkgnd | FWHM | Channel | Left | Pw | Cts/Sec | %Err | %Eff | Flags |
|----|---------|------|-------|------|---------|------|----|----------|------|----------|-------|
| 5 | 33.70 | 26 | 10 | 1.09 | 67.70 | 64 | 24 | 4.43E-03 | **** | 8.12E-02 | |
| 5 | 37.11 | 40 | 68 | 1.60 | 74.50 | 64 | 24 | 7.00E-03 | 98.0 | 1.40E-01 | |
| 0 | 139.01 | 51 | 185 | 0.97 | 278.08 | 276 | 8 | 8.93E-03 | 95.2 | 2.32E+00 | |
| 0 | 351.88 | 30 | 77 | 0.97 | 703.46 | 698 | 10 | 5.16E-03 | **** | 1.43E+00 | |
| 0 | 596.10 | 51 | 40 | 0.64 | 1191.72 | 1186 | 13 | 8.91E-03 | 57.5 | 9.56E-01 | |
| 0 | 610.12 | 11 | 64 | 1.80 | 1219.75 | 1213 | 12 | 1.90E-03 | **** | 9.39E-01 | |
| 0 | 1120.12 | 13 | 21 | 1.08 | 2240.22 | 2235 | 14 | 2.29E-03 | **** | 6.16E-01 | |
| 0 | 1764.28 | 8 | 11 | 0.55 | 3530.71 | 3521 | 16 | 1.40E-03 | **** | 4.38E-01 | |

Flags: "T" = Tentatively associated

Summary of Nuclide Activity

| | |
|---|----------|
| Total number of lines in spectrum | 9 |
| Number of unidentified lines | 8 |
| Number of lines tentatively identified by NID | 1 11.11% |

Nuclide Type : natural

| Nuclide | Hlife | Decay | Wtd Mean Uncorrected pCi/L | Wtd Mean Decay Corr pCi/L | Decay Corr 2-Sigma Error | 2-Sigma %Error | Flags |
|------------------|-----------|-------|----------------------------------|---------------------------------|-----------------------------|-------------------|-------|
| K-40 | 1.28E+09Y | 1.00 | 2.310E+01 | 2.310E+01 | 4.652E+01 | 201.42 | |
| Total Activity : | | | 2.310E+01 | 2.310E+01 | | | |

Grand Total Activity : 2.310E+01 2.310E+01

Flags: "K" = Keyline not found "M" = Manually accepted
"E" = Manually edited "A" = Nuclide specific abn. limit

Interference Report

No interference correction performed

Combined Activity-MDA Report

---- Identified Nuclides ----

| Nuclide | Activity (pCi/L) | Act error | MDA (pCi/L) | MDA error | Act/MDA |
|---------|---------------------|-----------|----------------|-----------|---------|
| K-40 | 2.310E+01 | 4.652E+01 | 5.628E+01 | 0.000E+00 | 0.410 |

---- Non-Identified Nuclides ----

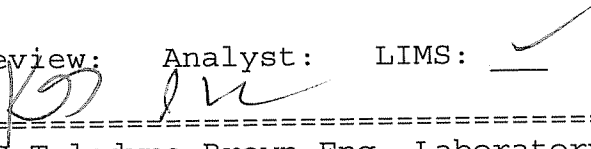
| Nuclide | Key-Line Activity (pCi/L) | K.L. Ided | Act error | MDA (pCi/L) | MDA error | Act/MDA |
|---------|---------------------------------|--------------|-----------|----------------|-----------|---------|
| BE-7 | -6.795E+00 | | 2.530E+01 | 4.471E+01 | 0.000E+00 | -0.152 |
| NA-24 | -4.325E+01 | | 1.005E+02 | 1.800E+02 | 0.000E+00 | -0.240 |
| CR-51 | -1.458E+01 | | 2.825E+01 | 4.618E+01 | 0.000E+00 | -0.316 |

| | | | | | |
|---------|------------|-----------|-----------|-----------|--------|
| MN-54 | 6.893E-01 | 2.645E+00 | 5.023E+00 | 0.000E+00 | 0.137 |
| CO-57 | -1.708E+00 | 3.066E+00 | 5.127E+00 | 0.000E+00 | -0.333 |
| CO-58 | -3.671E-01 | 2.562E+00 | 4.629E+00 | 0.000E+00 | -0.079 |
| FE-59 | -1.768E+00 | 5.786E+00 | 1.000E+01 | 0.000E+00 | -0.177 |
| CO-60 | 1.444E+00 | 2.884E+00 | 5.958E+00 | 0.000E+00 | 0.242 |
| ZN-65 | -2.012E+00 | 7.009E+00 | 1.026E+01 | 0.000E+00 | -0.196 |
| SE-75 | 1.203E+00 | 4.267E+00 | 7.414E+00 | 0.000E+00 | 0.162 |
| SR-85 | -4.369E+00 | 3.910E+00 | 6.368E+00 | 0.000E+00 | -0.686 |
| Y-88 | -7.082E-01 | 3.158E+00 | 5.860E+00 | 0.000E+00 | -0.121 |
| NB-94 | -2.884E+00 | 2.822E+00 | 4.475E+00 | 0.000E+00 | -0.644 |
| NB-95 | 1.536E+00 | 3.198E+00 | 6.060E+00 | 0.000E+00 | 0.253 |
| ZR-95 | -3.733E-01 | 5.227E+00 | 9.413E+00 | 0.000E+00 | -0.040 |
| MO-99 | 2.529E+01 | 4.967E+01 | 9.546E+01 | 0.000E+00 | 0.265 |
| RU-103 | -2.778E+00 | 3.006E+00 | 4.954E+00 | 0.000E+00 | -0.561 |
| RU-106 | 2.084E+01 | 3.048E+01 | 5.837E+01 | 0.000E+00 | 0.357 |
| AG-110m | 1.518E+00 | 2.728E+00 | 5.295E+00 | 0.000E+00 | 0.287 |
| SN-113 | -5.815E-01 | 4.175E+00 | 7.430E+00 | 0.000E+00 | -0.078 |
| SB-124 | -2.716E+00 | 4.953E+00 | 5.317E+00 | 0.000E+00 | -0.511 |
| SB-125 | 2.646E+00 | 8.240E+00 | 1.535E+01 | 0.000E+00 | 0.172 |
| TE-129M | -4.842E+00 | 3.502E+01 | 6.262E+01 | 0.000E+00 | -0.077 |
| I-131 | 2.978E-01 | 4.171E+00 | 7.170E+00 | 0.000E+00 | 0.042 |
| BA-133 | 1.602E+00 | 4.765E+00 | 7.391E+00 | 0.000E+00 | 0.217 |
| CS-134 | -7.629E-01 | 3.487E+00 | 5.272E+00 | 0.000E+00 | -0.145 |
| CS-136 | 1.200E+00 | 3.346E+00 | 6.363E+00 | 0.000E+00 | 0.189 |
| CS-137 | -2.554E-01 | 2.754E+00 | 5.012E+00 | 0.000E+00 | -0.051 |
| CE-139 | -2.329E+00 | 3.207E+00 | 5.270E+00 | 0.000E+00 | -0.442 |
| BA-140 | -2.290E+00 | 1.122E+01 | 2.006E+01 | 0.000E+00 | -0.114 |
| LA-140 | -1.095E+00 | 3.421E+00 | 6.268E+00 | 0.000E+00 | -0.175 |
| CE-141 | -1.131E+00 | 6.073E+00 | 9.930E+00 | 0.000E+00 | -0.114 |
| CE-144 | 3.078E+01 | 2.402E+01 | 4.363E+01 | 0.000E+00 | 0.706 |
| EU-152 | -5.251E-01 | 1.019E+01 | 1.726E+01 | 0.000E+00 | -0.030 |
| EU-154 | 7.306E-01 | 6.279E+00 | 1.086E+01 | 0.000E+00 | 0.067 |
| RA-226 | -3.013E+01 | 8.230E+01 | 1.455E+02 | 0.000E+00 | -0.207 |
| AC-228 | 1.010E+01 | 1.126E+01 | 2.355E+01 | 0.000E+00 | 0.429 |
| TH-228 | -1.166E-01 | 6.227E+00 | 1.081E+01 | 0.000E+00 | -0.011 |
| TH-232 | 1.009E+01 | 1.125E+01 | 2.353E+01 | 0.000E+00 | 0.429 |
| U-235 | 3.773E+01 | 2.713E+01 | 4.485E+01 | 0.000E+00 | 0.841 |
| U-238 | 1.800E+02 | 2.982E+02 | 6.209E+02 | 0.000E+00 | 0.290 |
| AM-241 | -1.326E+01 | 1.739E+01 | 2.927E+01 | 0.000E+00 | -0.453 |

```

A,23L29576-2      ,08/14/2006 16:00,08/11/2006 09:10,    3.137E+00,L29576-2 WG EX
B,23L29576-2      ,LIBD      ,08/14/2006 10:01,233L082404
C,K-40      ,YES,    2.310E+01,    4.652E+01,    5.628E+01,,    0.410
C,BE-7      ,NO ,    -6.795E+00,    2.530E+01,    4.471E+01,,    -0.152
C,NA-24     ,NO ,    -4.325E+01,    1.005E+02,    1.800E+02,,    -0.240
C,CR-51     ,NO ,    -1.458E+01,    2.825E+01,    4.618E+01,,    -0.316
C,MN-54     ,NO ,    6.893E-01,    2.645E+00,    5.023E+00,,    0.137
C,CO-57     ,NO ,    -1.708E+00,    3.066E+00,    5.127E+00,,    -0.333
C,CO-58     ,NO ,    -3.671E-01,    2.562E+00,    4.629E+00,,    -0.079
C,FE-59     ,NO ,    -1.768E+00,    5.786E+00,    1.000E+01,,    -0.177
C,CO-60     ,NO ,    1.444E+00,    2.884E+00,    5.958E+00,,    0.242
C,ZN-65     ,NO ,    -2.012E+00,    7.009E+00,    1.026E+01,,    -0.196
C,SE-75     ,NO ,    1.203E+00,    4.267E+00,    7.414E+00,,    0.162
C,SR-85     ,NO ,    -4.369E+00,    3.910E+00,    6.368E+00,,    -0.686
C,Y-88      ,NO ,    -7.082E-01,    3.158E+00,    5.860E+00,,    -0.121
C,NB-94     ,NO ,    -2.884E+00,    2.822E+00,    4.475E+00,,    -0.644
C,NB-95     ,NO ,    1.536E+00,    3.198E+00,    6.060E+00,,    0.253
C,ZR-95     ,NO ,    -3.733E-01,    5.227E+00,    9.413E+00,,    -0.040
C,MO-99     ,NO ,    2.529E+01,    4.967E+01,    9.546E+01,,    0.265
C,RU-103    ,NO ,    -2.778E+00,    3.006E+00,    4.954E+00,,    -0.561
C,RU-106    ,NO ,    2.084E+01,    3.048E+01,    5.837E+01,,    0.357
C,AG-110m   ,NO ,    1.518E+00,    2.728E+00,    5.295E+00,,    0.287
C,SN-113    ,NO ,    -5.815E-01,    4.175E+00,    7.430E+00,,    -0.078
C,SB-124    ,NO ,    -2.716E+00,    4.953E+00,    5.317E+00,,    -0.511
C,SB-125    ,NO ,    2.646E+00,    8.240E+00,    1.535E+01,,    0.172
C,TE-129M   ,NO ,    -4.842E+00,    3.502E+01,    6.262E+01,,    -0.077
C,I-131     ,NO ,    2.978E-01,    4.171E+00,    7.170E+00,,    0.042
C,BA-133    ,NO ,    1.602E+00,    4.765E+00,    7.391E+00,,    0.217
C,CS-134    ,NO ,    -7.629E-01,    3.487E+00,    5.272E+00,,    -0.145
C,CS-136    ,NO ,    1.200E+00,    3.346E+00,    6.363E+00,,    0.189
C,CS-137    ,NO ,    -2.554E-01,    2.754E+00,    5.012E+00,,    -0.051
C,CE-139    ,NO ,    -2.329E+00,    3.207E+00,    5.270E+00,,    -0.442
C,BA-140    ,NO ,    -2.290E+00,    1.122E+01,    2.006E+01,,    -0.114
C,LA-140    ,NO ,    -1.095E+00,    3.421E+00,    6.268E+00,,    -0.175
C,CE-141    ,NO ,    -1.131E+00,    6.073E+00,    9.930E+00,,    -0.114
C,CE-144    ,NO ,    3.078E+01,    2.402E+01,    4.363E+01,,    0.706
C,EU-152    ,NO ,    -5.251E-01,    1.019E+01,    1.726E+01,,    -0.030
C,EU-154    ,NO ,    7.306E-01,    6.279E+00,    1.086E+01,,    0.067
C,RA-226    ,NO ,    -3.013E+01,    8.230E+01,    1.455E+02,,    -0.207
C,AC-228    ,NO ,    1.010E+01,    1.126E+01,    2.355E+01,,    0.429
C,TH-228    ,NO ,    -1.166E-01,    6.227E+00,    1.081E+01,,    -0.011
C,TH-232    ,NO ,    1.009E+01,    1.125E+01,    2.353E+01,,    0.429
C,U-235     ,NO ,    3.773E+01,    2.713E+01,    4.485E+01,,    0.841
C,U-238     ,NO ,    1.800E+02,    2.982E+02,    6.209E+02,,    0.290
C,AM-241    ,NO ,    -1.326E+01,    1.739E+01,    2.927E+01,,    -0.453

```

Sec. Review: Analyst: LIMS: 

VAX/VMS Teledyne Brown Eng. Laboratory Gamma Report: 14-AUG-2006 15:28:27.08
 TBE04 P-40312B HpGe ***** Aquisition Date/Time: 14-AUG-2006 14:21:21.15

LIMS No., Customer Name, Client ID: L29576-3 WG EX/DRES

Sample ID : 04L29576-3 Sample Date: 11-AUG-2006 11:30:00.
 Sample Type : WG Geometry : 043L082004
 Quantity : 3.08110E+00 L BKGFILE : 04BG072806MT
 Start Channel : 90 Energy Tol : 1.00000 Real Time : 0 01:07:01.81
 End Channel : 4090 Pk Srch Sens: 5.00000 Live time : 0 01:07:00.98
 MDA Constant : 0.00 Library Used: LIBD

| Pk | It | Energy | Area | Bkgnd | FWHM | Channel | %Eff | Cts/Sec | %Err | Fit |
|----|----|----------|------|-------|------|---------|----------|----------|------|----------|
| 1 | 1 | 77.19* | 55 | 82 | 1.10 | 155.30 | 1.06E+00 | 1.38E-02 | 30.8 | 5.47E+00 |
| 2 | 1 | 87.18* | 28 | 106 | 1.18 | 175.30 | 1.39E+00 | 7.00E-03 | 65.1 | 2.39E+00 |
| 3 | 1 | 241.93 | 64 | 81 | 0.96 | 484.84 | 1.66E+00 | 1.60E-02 | 27.1 | 4.16E-01 |
| 4 | 1 | 295.21* | 116 | 47 | 1.55 | 591.42 | 1.45E+00 | 2.89E-02 | 16.0 | 2.38E+00 |
| 5 | 1 | 351.85* | 199 | 33 | 1.34 | 704.72 | 1.28E+00 | 4.95E-02 | 9.6 | 2.81E+00 |
| 6 | 1 | 595.07 | 27 | 18 | 2.93 | 1191.16 | 8.64E-01 | 6.63E-03 | 36.6 | 1.45E+00 |
| 7 | 1 | 609.11* | 155 | 24 | 1.34 | 1219.22 | 8.49E-01 | 3.85E-02 | 10.7 | 1.26E+00 |
| 8 | 1 | 768.06 | 14 | 6 | 1.72 | 1537.09 | 7.10E-01 | 3.52E-03 | 38.7 | 9.38E-01 |
| 9 | 1 | 933.79 | 19 | 17 | 2.74 | 1868.49 | 6.09E-01 | 4.71E-03 | 50.7 | 7.20E-01 |
| 10 | 1 | 1119.94* | 28 | 6 | 1.89 | 2240.68 | 5.27E-01 | 6.85E-03 | 26.8 | 1.63E+00 |
| 11 | 1 | 1237.67* | 27 | 2 | 2.48 | 2476.03 | 4.88E-01 | 6.64E-03 | 22.5 | 2.94E-01 |
| 12 | 1 | 1763.82* | 39 | 0 | 3.40 | 3527.74 | 3.77E-01 | 9.64E-03 | 16.9 | 1.10E+00 |

Flag: "*" = Peak area was modified by background subtraction

Nuclide Line Activity Report

Flag: "*" = Keyline

Summary of Nuclide Activity
Sample ID : 04L29576-3

Page : 2
Acquisition date : 14-AUG-2006 14:21:21

| | | |
|---|----|-------|
| Total number of lines in spectrum | 12 | |
| Number of unidentified lines | 11 | |
| Number of lines tentatively identified by NID | 1 | 8.33% |

**** There are no nuclides meeting summary criteria ****

Flags: "K" = Keyline not found "M" = Manually accepted
 "E" = Manually edited "A" = Nuclide specific abn. limit

Unidentified Energy Lines
Sample ID : 04L29576-3

Page : 3
Acquisition date : 14-AUG-2006 14:21:21

| It | Energy | Area | Bkgnd | FWHM | Channel | Left | Pw | Cts/Sec | %Err | %Eff | Flags |
|----|---------|------|-------|------|---------|------|----|----------|------|----------|-------|
| 1 | 77.19 | 55 | 82 | 1.10 | 155.30 | 153 | 6 | 1.38E-02 | 61.7 | 1.06E+00 | |
| 1 | 87.18 | 28 | 106 | 1.18 | 175.30 | 173 | 7 | 7.00E-03 | **** | 1.39E+00 | |
| 1 | 241.93 | 64 | 81 | 0.96 | 484.84 | 481 | 8 | 1.60E-02 | 54.2 | 1.66E+00 | T |
| 1 | 295.21 | 116 | 47 | 1.55 | 591.42 | 587 | 12 | 2.89E-02 | 32.0 | 1.45E+00 | |
| 1 | 351.85 | 199 | 33 | 1.34 | 704.72 | 698 | 11 | 4.95E-02 | 19.1 | 1.28E+00 | |
| 1 | 595.07 | 27 | 18 | 2.93 | 1191.16 | 1184 | 12 | 6.63E-03 | 73.1 | 8.64E-01 | |
| 1 | 609.11 | 155 | 24 | 1.34 | 1219.22 | 1214 | 12 | 3.85E-02 | 21.5 | 8.49E-01 | |
| 1 | 768.06 | 14 | 6 | 1.72 | 1537.09 | 1534 | 8 | 3.52E-03 | 77.4 | 7.10E-01 | |
| 1 | 933.79 | 19 | 17 | 2.74 | 1868.49 | 1863 | 14 | 4.71E-03 | **** | 6.09E-01 | |
| 1 | 1119.94 | 28 | 6 | 1.89 | 2240.68 | 2234 | 10 | 6.85E-03 | 53.5 | 5.27E-01 | |
| 1 | 1237.67 | 27 | 2 | 2.48 | 2476.03 | 2470 | 11 | 6.64E-03 | 44.9 | 4.88E-01 | |
| 1 | 1763.82 | 39 | 0 | 3.40 | 3527.74 | 3520 | 14 | 9.64E-03 | 33.7 | 3.77E-01 | |

Flags: "T" = Tentatively associated

Summary of Nuclide Activity

Total number of lines in spectrum 12
 Number of unidentified lines 11
 Number of lines tentatively identified by NID 1 8.33%
 **** There are no nuclides meeting summary criteria ****

Flags: "K" = Keyline not found "M" = Manually accepted
 "E" = Manually edited "A" = Nuclide specific abn. limit

Interference Report

No interference correction performed

Combined Activity-MDA Report

---- Non-Identified Nuclides ----

| Nuclide | Key-Line Activity (pCi/L) | K.L. Ided | Act error | MDA (pCi/L) | MDA error | Act/MDA |
|---------|---------------------------------|--------------|-----------|----------------|-----------|---------|
| BE-7 | -2.658E+00 | | 3.731E+01 | 6.118E+01 | 0.000E+00 | -0.043 |
| NA-24 | 6.362E+01 | | 1.122E+02 | 2.105E+02 | 0.000E+00 | 0.302 |
| K-40 | 5.395E+00 | | 5.638E+01 | 1.149E+02 | 0.000E+00 | 0.047 |
| CR-51 | -3.268E+01 | | 3.299E+01 | 5.031E+01 | 0.000E+00 | -0.650 |
| MN-54 | -1.413E+00 | | 3.312E+00 | 5.127E+00 | 0.000E+00 | -0.276 |
| CO-57 | 1.196E+00 | | 3.540E+00 | 5.984E+00 | 0.000E+00 | 0.200 |
| CO-58 | -2.140E+00 | | 4.151E+00 | 5.974E+00 | 0.000E+00 | -0.358 |
| FE-59 | 2.190E+00 | | 8.320E+00 | 1.437E+01 | 0.000E+00 | 0.152 |
| CO-60 | -2.908E-01 | | 4.630E+00 | 8.339E+00 | 0.000E+00 | -0.035 |
| ZN-65 | -3.468E+00 | | 1.028E+01 | 1.333E+01 | 0.000E+00 | -0.260 |
| SE-75 | -1.177E+00 | | 5.063E+00 | 7.847E+00 | 0.000E+00 | -0.150 |
| SR-85 | -1.525E+01 | | 5.372E+00 | 6.276E+00 | 0.000E+00 | -2.430 |
| Y-88 | -4.714E-01 | | 3.958E+00 | 6.333E+00 | 0.000E+00 | -0.074 |
| NB-94 | 3.926E+00 | | 3.556E+00 | 6.745E+00 | 0.000E+00 | 0.582 |
| NB-95 | 3.013E+00 | | 3.707E+00 | 6.327E+00 | 0.000E+00 | 0.476 |
| ZR-95 | -6.605E+00 | | 6.475E+00 | 8.074E+00 | 0.000E+00 | -0.818 |

| | | | | | |
|---------|------------|-----------|-----------|-----------|--------|
| MO-99 | 1.289E+01 | 5.424E+01 | 9.131E+01 | 0.000E+00 | 0.141 |
| RU-103 | -1.960E+00 | 3.681E+00 | 5.598E+00 | 0.000E+00 | -0.350 |
| RU-106 | -1.501E+01 | 3.363E+01 | 5.043E+01 | 0.000E+00 | -0.298 |
| AG-110m | -4.086E+00 | 3.709E+00 | 4.778E+00 | 0.000E+00 | -0.855 |
| SN-113 | 1.539E+00 | 4.912E+00 | 8.494E+00 | 0.000E+00 | 0.181 |
| SB-124 | 1.664E+00 | 3.783E+00 | 6.173E+00 | 0.000E+00 | 0.270 |
| SB-125 | -2.563E+00 | 1.069E+01 | 1.727E+01 | 0.000E+00 | -0.148 |
| TE-129M | 1.437E+01 | 4.401E+01 | 7.588E+01 | 0.000E+00 | 0.189 |
| I-131 | -3.768E-01 | 4.920E+00 | 8.195E+00 | 0.000E+00 | -0.046 |
| BA-133 | 1.321E+00 | 5.236E+00 | 8.070E+00 | 0.000E+00 | 0.164 |
| CS-134 | -1.622E+00 | 3.764E+00 | 4.798E+00 | 0.000E+00 | -0.338 |
| CS-136 | -1.524E+00 | 4.209E+00 | 6.661E+00 | 0.000E+00 | -0.229 |
| CS-137 | 4.731E-01 | 4.639E+00 | 7.620E+00 | 0.000E+00 | 0.062 |
| CE-139 | 7.734E-01 | 3.801E+00 | 6.284E+00 | 0.000E+00 | 0.123 |
| BA-140 | -2.730E+00 | 1.632E+01 | 2.615E+01 | 0.000E+00 | -0.104 |
| LA-140 | -7.738E-02 | 5.906E+00 | 9.884E+00 | 0.000E+00 | -0.008 |
| CE-141 | -2.290E+00 | 6.626E+00 | 1.058E+01 | 0.000E+00 | -0.216 |
| CE-144 | 1.444E+01 | 2.724E+01 | 4.650E+01 | 0.000E+00 | 0.310 |
| EU-152 | 4.007E+00 | 1.194E+01 | 2.075E+01 | 0.000E+00 | 0.193 |
| EU-154 | 1.414E+00 | 7.536E+00 | 1.260E+01 | 0.000E+00 | 0.112 |
| RA-226 | 1.075E+01 | 9.236E+01 | 1.571E+02 | 0.000E+00 | 0.068 |
| AC-228 | -7.497E-01 | 1.442E+01 | 2.606E+01 | 0.000E+00 | -0.029 |
| TH-228 | -4.491E+00 | 8.512E+00 | 1.256E+01 | 0.000E+00 | -0.358 |
| TH-232 | -7.489E-01 | 1.440E+01 | 2.603E+01 | 0.000E+00 | -0.029 |
| U-235 | 1.149E+01 | 2.765E+01 | 4.671E+01 | 0.000E+00 | 0.246 |
| U-238 | 2.305E+02 | 4.637E+02 | 8.333E+02 | 0.000E+00 | 0.277 |
| AM-241 | -1.122E+01 | 3.729E+01 | 6.182E+01 | 0.000E+00 | -0.181 |

A,04L29576-3 ,08/14/2006 15:28,08/11/2006 11:30, 3.081E+00,L29576-3 WG EX
 B,04L29576-3 ,LIBD ,08/14/2006 09:43,043L082004
 C,BE-7 ,NO , -2.658E+00, 3.731E+01, 6.118E+01,, -0.043
 C,NA-24 ,NO , 6.362E+01, 1.122E+02, 2.105E+02,, 0.302
 C,K-40 ,NO , 5.395E+00, 5.638E+01, 1.149E+02,, 0.047
 C,CR-51 ,NO , -3.268E+01, 3.299E+01, 5.031E+01,, -0.650
 C,MN-54 ,NO , -1.413E+00, 3.312E+00, 5.127E+00,, -0.276
 C,CO-57 ,NO , 1.196E+00, 3.540E+00, 5.984E+00,, 0.200
 C,CO-58 ,NO , -2.140E+00, 4.151E+00, 5.974E+00,, -0.358
 C,FE-59 ,NO , 2.190E+00, 8.320E+00, 1.437E+01,, 0.152
 C,CO-60 ,NO , -2.908E-01, 4.630E+00, 8.339E+00,, -0.035
 C,ZN-65 ,NO , -3.468E+00, 1.028E+01, 1.333E+01,, -0.260
 C,SE-75 ,NO , -1.177E+00, 5.063E+00, 7.847E+00,, -0.150
 C,SR-85 ,NO , -1.525E+01, 5.372E+00, 6.276E+00,, -2.430
 C,Y-88 ,NO , -4.714E-01, 3.958E+00, 6.333E+00,, -0.074
 C,NB-94 ,NO , 3.926E+00, 3.556E+00, 6.745E+00,, 0.582
 C,NB-95 ,NO , 3.013E+00, 3.707E+00, 6.327E+00,, 0.476
 C,ZR-95 ,NO , -6.605E+00, 6.475E+00, 8.074E+00,, -0.818
 C,MO-99 ,NO , 1.289E+01, 5.424E+01, 9.131E+01,, 0.141
 C,RU-103 ,NO , -1.960E+00, 3.681E+00, 5.598E+00,, -0.350
 C,RU-106 ,NO , -1.501E+01, 3.363E+01, 5.043E+01,, -0.298
 C,AG-110m ,NO , -4.086E+00, 3.709E+00, 4.778E+00,, -0.855
 C,SN-113 ,NO , 1.539E+00, 4.912E+00, 8.494E+00,, 0.181
 C,SB-124 ,NO , 1.664E+00, 3.783E+00, 6.173E+00,, 0.270
 C,SB-125 ,NO , -2.563E+00, 1.069E+01, 1.727E+01,, -0.148
 C,TE-129M ,NO , 1.437E+01, 4.401E+01, 7.588E+01,, 0.189
 C,I-131 ,NO , -3.768E-01, 4.920E+00, 8.195E+00,, -0.046
 C,BA-133 ,NO , 1.321E+00, 5.236E+00, 8.070E+00,, 0.164
 C,CS-134 ,NO , -1.622E+00, 3.764E+00, 4.798E+00,, -0.338
 C,CS-136 ,NO , -1.524E+00, 4.209E+00, 6.661E+00,, -0.229
 C,CS-137 ,NO , 4.731E-01, 4.639E+00, 7.620E+00,, 0.062
 C,CE-139 ,NO , 7.734E-01, 3.801E+00, 6.284E+00,, 0.123
 C,BA-140 ,NO , -2.730E+00, 1.632E+01, 2.615E+01,, -0.104
 C,LA-140 ,NO , -7.738E-02, 5.906E+00, 9.884E+00,, -0.008
 C,CE-141 ,NO , -2.290E+00, 6.626E+00, 1.058E+01,, -0.216
 C,CE-144 ,NO , 1.444E+01, 2.724E+01, 4.650E+01,, 0.310
 C,EU-152 ,NO , 4.007E+00, 1.194E+01, 2.075E+01,, 0.193
 C,EU-154 ,NO , 1.414E+00, 7.536E+00, 1.260E+01,, 0.112
 C,RA-226 ,NO , 1.075E+01, 9.236E+01, 1.571E+02,, 0.068
 C,AC-228 ,NO , -7.497E-01, 1.442E+01, 2.606E+01,, -0.029
 C,TH-228 ,NO , -4.491E+00, 8.512E+00, 1.256E+01,, -0.358
 C,TH-232 ,NO , -7.489E-01, 1.440E+01, 2.603E+01,, -0.029
 C,U-235 ,NO , 1.149E+01, 2.765E+01, 4.671E+01,, 0.246
 C,U-238 ,NO , 2.305E+02, 4.637E+02, 8.333E+02,, 0.277
 C,AM-241 ,NO , -1.122E+01, 3.729E+01, 6.182E+01,, -0.181

Sec. Review: Analyst: LIMS: ✓

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VAX/VMS Teledyne Brown Eng. Laboratory Gamma Report: 14-AUG-2006 18:09:27.81
 TBE07 P-10768B HpGe ***** Aquisition Date/Time: 14-AUG-2006 15:07:49.99

LIMS No., Customer Name, Client ID: L29576-4 WG EX/DRES

| | | | |
|---------------|-----------------|---------------|-----------------------|
| Sample ID | : 07L29576-4 | Smple Date: | 11-AUG-2006 13:15:00. |
| Sample Type | : WG | Geometry | : 073L082504 |
| Quantity | : 2.86760E+00 L | BKGFILE | : 07BG072806MT |
| Start Channel | : 40 | Energy Tol | : 1.00000 |
| End Channel | : 4090 | Pk Srch Sens: | 5.00000 |
| MDA Constant | : 0.00 | Library Used: | LIBD |
| | | Real Time | : 0 03:01:34.53 |
| | | Live time | : 0 03:01:32.31 |

| Pk | It | Energy | Area | Bkgnd | FWHM | Channel | %Eff | Cts/Sec | %Err | Fit |
|----|----|----------|------|-------|------|---------|----------|----------|------|----------|
| 1 | 1 | 65.40* | 155 | 689 | 4.00 | 131.73 | 7.69E-01 | 1.43E-02 | 41.0 | 3.38E+00 |
| 2 | 1 | 198.34* | 82 | 359 | 1.89 | 397.97 | 2.25E+00 | 7.56E-03 | 48.7 | 2.51E+00 |
| 3 | 1 | 295.00* | 61 | 203 | 1.40 | 591.53 | 1.81E+00 | 5.64E-03 | 48.5 | 1.51E+00 |
| 4 | 1 | 351.80* | 140 | 202 | 1.39 | 705.25 | 1.61E+00 | 1.29E-02 | 23.7 | 2.33E+00 |
| 5 | 1 | 595.71 | 82 | 57 | 1.90 | 1193.55 | 1.10E+00 | 7.57E-03 | 20.9 | 1.13E+00 |
| 6 | 1 | 609.34* | 148 | 112 | 1.26 | 1220.83 | 1.09E+00 | 1.36E-02 | 18.6 | 1.73E+00 |
| 7 | 1 | 846.17* | 25 | 21 | 4.51 | 1694.80 | 8.58E-01 | 2.28E-03 | 49.3 | 3.20E+00 |
| 8 | 1 | 910.83* | 22 | 25 | 2.87 | 1824.20 | 8.15E-01 | 2.02E-03 | 58.3 | 2.20E+00 |
| 9 | 1 | 1539.53 | 16 | 8 | 1.56 | 3081.77 | 5.62E-01 | 1.51E-03 | 48.0 | 5.52E-01 |
| 10 | 1 | 1543.69 | 17 | 5 | 2.30 | 3090.08 | 5.61E-01 | 1.57E-03 | 32.3 | 6.27E-01 |
| 11 | 1 | 1764.58* | 27 | 19 | 2.48 | 3531.72 | 5.12E-01 | 2.50E-03 | 43.9 | 8.03E-01 |

Flag: "*" = Peak area was modified by background subtraction

Nuclide Line Activity Report

Nuclide Type: natural

| Nuclide | Energy | Area | %Abn | %Eff | Uncorrected pCi/L | Decay Corr pCi/L | 2-Sigma %Error |
|---------|--------|-------|--------|-----------|----------------------|---------------------|-------------------|
| AC-228 | 835.50 | ----- | 1.75 | 8.662E-01 | ----- | Line Not Found | ----- |
| | 911.07 | 22 | 27.70* | 8.146E-01 | 8.446E+00 | 8.455E+00 | 116.56 |

Flag: "*" = Keyline

Summary of Nuclide Activity

Page : 2

Sample ID : 07L29576-4

Acquisition date : 14-AUG-2006 15:07:49

| | | |
|---|----|-------|
| Total number of lines in spectrum | 11 | |
| Number of unidentified lines | 10 | |
| Number of lines tentatively identified by NID | 1 | 9.09% |

Nuclide Type : natural

| Nuclide | Hlife | Decay | Uncorrected pCi/L | Decay Corr pCi/L | Decay Corr 2-Sigma Error | 2-Sigma %Error | Flags |
|------------------|-------|-------|----------------------|---------------------|-----------------------------|-------------------|-------|
| AC-228 | 5.75Y | 1.00 | 8.446E+00 | 8.455E+00 | 9.855E+00 | 116.56 | |
| Total Activity : | | | 8.446E+00 | 8.455E+00 | | | |

| | | |
|------------------------|-----------|-----------|
| Grand Total Activity : | 8.446E+00 | 8.455E+00 |
|------------------------|-----------|-----------|

Flags: "K" = Keyline not found
 "E" = Manually edited

"M" = Manually accepted
 "A" = Nuclide specific abn. limit

Unidentified Energy Lines

Page : 3

Sample ID : 07L29576-4

Acquisition date : 14-AUG-2006 15:07:49

| It | Energy | Area | Bkgnd | FWHM | Channel | Left | Pw | Cts/Sec | %Err | %Eff | Flags |
|----|---------|------|-------|------|---------|------|----|----------|------|----------|-------|
| 1 | 65.40 | 155 | 689 | 4.00 | 131.73 | 122 | 18 | 1.43E-02 | 82.0 | 7.69E-01 | |
| 1 | 198.34 | 82 | 359 | 1.89 | 397.97 | 391 | 12 | 7.56E-03 | 97.5 | 2.25E+00 | |
| 1 | 295.00 | 61 | 203 | 1.40 | 591.53 | 587 | 11 | 5.64E-03 | 97.1 | 1.81E+00 | |
| 1 | 351.80 | 140 | 202 | 1.39 | 705.25 | 698 | 13 | 1.29E-02 | 47.3 | 1.61E+00 | |
| 1 | 595.71 | 82 | 57 | 1.90 | 1193.55 | 1188 | 11 | 7.57E-03 | 41.8 | 1.10E+00 | |
| 1 | 609.34 | 148 | 112 | 1.26 | 1220.83 | 1213 | 15 | 1.36E-02 | 37.1 | 1.09E+00 | |
| 1 | 846.17 | 25 | 21 | 4.51 | 1694.80 | 1688 | 12 | 2.28E-03 | 98.5 | 8.58E-01 | |
| 1 | 1539.53 | 16 | 8 | 1.56 | 3081.77 | 3075 | 13 | 1.51E-03 | 96.1 | 5.62E-01 | |
| 1 | 1543.69 | 17 | 5 | 2.30 | 3090.08 | 3087 | 10 | 1.57E-03 | 64.6 | 5.61E-01 | |
| 1 | 1764.58 | 27 | 19 | 2.48 | 3531.72 | 3523 | 15 | 2.50E-03 | 87.9 | 5.12E-01 | |

Flags: "T" = Tentatively associated

Summary of Nuclide Activity

| | |
|---|---------|
| Total number of lines in spectrum | 11 |
| Number of unidentified lines | 10 |
| Number of lines tentatively identified by NID | 1 9.09% |

Nuclide Type : natural

| Nuclide | Hlife | Decay | Wtd Mean Uncorrected pCi/L | Wtd Mean Decay Corr pCi/L | Decay Corr 2-Sigma Error | 2-Sigma %Error | Flags |
|------------------|-------|-------|----------------------------------|---------------------------------|-----------------------------|-------------------|-------|
| AC-228 | 5.75Y | 1.00 | 8.446E+00 | 8.455E+00 | 9.855E+00 | 116.56 | |
| Total Activity : | | | 8.446E+00 | 8.455E+00 | | | |

Grand Total Activity : 8.446E+00 8.455E+00

Flags: "K" = Keyline not found "M" = Manually accepted
 "E" = Manually edited "A" = Nuclide specific abn. limit

Interference Report

No interference correction performed

Combined Activity-MDA Report

---- Identified Nuclides ----

| Nuclide | Activity (pCi/L) | Act error | MDA (pCi/L) | MDA error | Act/MDA |
|---------|---------------------|-----------|----------------|-----------|---------|
| AC-228 | 8.455E+00 | 9.855E+00 | 1.291E+01 | 0.000E+00 | 0.655 |

---- Non-Identified Nuclides ----

| Nuclide | Key-Line Activity (pCi/L) | K.L. Ided | Act error | MDA (pCi/L) | MDA error | Act/MDA |
|---------|---------------------------------|--------------|-----------|----------------|-----------|---------|
| BE-7 | 1.286E+00 | | 1.742E+01 | 2.948E+01 | 0.000E+00 | 0.044 |

| | | | | | |
|---------|------------|-----------|-----------|-----------|--------|
| NA-24 | 6.494E+00 | 7.582E+01 | 1.253E+02 | 0.000E+00 | 0.052 |
| K-40 | -5.673E+00 | 3.435E+01 | 6.762E+01 | 0.000E+00 | -0.084 |
| CR-51 | -7.650E+00 | 1.847E+01 | 2.936E+01 | 0.000E+00 | -0.261 |
| MN-54 | -8.431E-01 | 2.158E+00 | 3.363E+00 | 0.000E+00 | -0.251 |
| CO-57 | -8.771E-01 | 2.085E+00 | 3.250E+00 | 0.000E+00 | -0.270 |
| CO-58 | -3.551E-01 | 2.286E+00 | 3.662E+00 | 0.000E+00 | -0.097 |
| FE-59 | 7.711E-01 | 4.078E+00 | 6.918E+00 | 0.000E+00 | 0.111 |
| CO-60 | 4.230E-01 | 2.336E+00 | 3.911E+00 | 0.000E+00 | 0.108 |
| ZN-65 | -8.376E+00 | 4.986E+00 | 6.857E+00 | 0.000E+00 | -1.221 |
| SE-75 | -1.659E-01 | 2.700E+00 | 4.439E+00 | 0.000E+00 | -0.037 |
| SR-85 | -7.859E+00 | 2.885E+00 | 4.170E+00 | 0.000E+00 | -1.885 |
| Y-88 | 7.477E-01 | 2.256E+00 | 3.929E+00 | 0.000E+00 | 0.190 |
| NB-94 | 3.527E-01 | 1.988E+00 | 3.316E+00 | 0.000E+00 | 0.106 |
| NB-95 | -5.787E-01 | 2.287E+00 | 3.649E+00 | 0.000E+00 | -0.159 |
| ZR-95 | -8.702E-02 | 3.541E+00 | 5.770E+00 | 0.000E+00 | -0.015 |
| MO-99 | 2.082E+01 | 3.401E+01 | 5.879E+01 | 0.000E+00 | 0.354 |
| RU-103 | -3.305E-01 | 2.279E+00 | 3.792E+00 | 0.000E+00 | -0.087 |
| RU-106 | -3.637E+00 | 1.973E+01 | 3.217E+01 | 0.000E+00 | -0.113 |
| AG-110m | -9.218E-01 | 1.927E+00 | 3.036E+00 | 0.000E+00 | -0.304 |
| SN-113 | 7.659E-01 | 2.861E+00 | 4.697E+00 | 0.000E+00 | 0.163 |
| SB-124 | 2.103E+00 | 2.435E+00 | 3.669E+00 | 0.000E+00 | 0.573 |
| SB-125 | -1.819E+00 | 5.942E+00 | 9.295E+00 | 0.000E+00 | -0.196 |
| TE-129M | 1.186E+01 | 2.590E+01 | 4.278E+01 | 0.000E+00 | 0.277 |
| I-131 | 2.716E-01 | 2.587E+00 | 4.222E+00 | 0.000E+00 | 0.064 |
| BA-133 | 2.426E+00 | 3.131E+00 | 4.764E+00 | 0.000E+00 | 0.509 |
| CS-134 | 1.180E-01 | 2.389E+00 | 3.459E+00 | 0.000E+00 | 0.034 |
| CS-136 | 6.088E-01 | 2.496E+00 | 4.151E+00 | 0.000E+00 | 0.147 |
| CS-137 | -2.146E+00 | 2.245E+00 | 3.379E+00 | 0.000E+00 | -0.635 |
| CE-139 | -1.246E+00 | 1.990E+00 | 3.270E+00 | 0.000E+00 | -0.381 |
| BA-140 | 7.021E+00 | 8.474E+00 | 1.503E+01 | 0.000E+00 | 0.467 |
| LA-140 | 5.145E-01 | 2.753E+00 | 4.571E+00 | 0.000E+00 | 0.113 |
| CE-141 | -1.189E+00 | 3.539E+00 | 5.926E+00 | 0.000E+00 | -0.201 |
| CE-144 | -8.495E+00 | 1.643E+01 | 2.538E+01 | 0.000E+00 | -0.335 |
| EU-152 | -4.217E+00 | 6.807E+00 | 1.020E+01 | 0.000E+00 | -0.413 |
| EU-154 | 1.977E-01 | 4.446E+00 | 7.089E+00 | 0.000E+00 | 0.028 |
| RA-226 | -1.034E+01 | 5.444E+01 | 9.379E+01 | 0.000E+00 | -0.110 |
| TH-228 | -2.564E+00 | 4.323E+00 | 7.293E+00 | 0.000E+00 | -0.352 |
| TH-232 | 8.446E+00 | 9.844E+00 | 1.558E+01 | 0.000E+00 | 0.542 |
| U-235 | -1.852E+00 | 1.731E+01 | 2.706E+01 | 0.000E+00 | -0.068 |
| U-238 | 7.816E+01 | 2.335E+02 | 3.930E+02 | 0.000E+00 | 0.199 |
| AM-241 | 1.264E+01 | 1.995E+01 | 3.041E+01 | 0.000E+00 | 0.416 |

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A,07L29576-4      ,08/14/2006 18:09,08/11/2006 13:15,    2.868E+00,L29576-4 WG EX
B,07L29576-4      ,LIBD      ,08/14/2006 09:44,073L082504
C,AC-228  ,YES,    8.455E+00,    9.855E+00,    1.291E+01,,    0.655
C,BE-7    ,NO ,    1.286E+00,    1.742E+01,    2.948E+01,,    0.044
C,NA-24   ,NO ,    6.494E+00,    7.582E+01,    1.253E+02,,    0.052
C,K-40    ,NO ,   -5.673E+00,    3.435E+01,    6.762E+01,,   -0.084
C,CR-51   ,NO ,   -7.650E+00,    1.847E+01,    2.936E+01,,   -0.261
C,MN-54   ,NO ,   -8.431E-01,    2.158E+00,    3.363E+00,,   -0.251
C,CO-57   ,NO ,   -8.771E-01,    2.085E+00,    3.250E+00,,   -0.270
C,CO-58   ,NO ,   -3.551E-01,    2.286E+00,    3.662E+00,,   -0.097
C,FE-59   ,NO ,    7.711E-01,    4.078E+00,    6.918E+00,,    0.111
C,CO-60   ,NO ,    4.230E-01,    2.336E+00,    3.911E+00,,    0.108
C,ZN-65   ,NO ,   -8.376E+00,    4.986E+00,    6.857E+00,,   -1.221
C,SE-75   ,NO ,   -1.659E-01,    2.700E+00,    4.439E+00,,   -0.037
C,SR-85   ,NO ,   -7.859E+00,    2.885E+00,    4.170E+00,,   -1.885
C,Y-88    ,NO ,    7.477E-01,    2.256E+00,    3.929E+00,,    0.190
C,NB-94   ,NO ,    3.527E-01,    1.988E+00,    3.316E+00,,    0.106
C,NB-95   ,NO ,   -5.787E-01,    2.287E+00,    3.649E+00,,   -0.159
C,ZR-95   ,NO ,   -8.702E-02,    3.541E+00,    5.770E+00,,   -0.015
C,MO-99   ,NO ,    2.082E+01,    3.401E+01,    5.879E+01,,    0.354
C,RU-103  ,NO ,   -3.305E-01,    2.279E+00,    3.792E+00,,   -0.087
C,RU-106  ,NO ,   -3.637E+00,    1.973E+01,    3.217E+01,,   -0.113
C,AG-110m ,NO ,   -9.218E-01,    1.927E+00,    3.036E+00,,   -0.304
C,SN-113  ,NO ,    7.659E-01,    2.861E+00,    4.697E+00,,    0.163
C,SB-124  ,NO ,    2.103E+00,    2.435E+00,    3.669E+00,,    0.573
C,SB-125  ,NO ,   -1.819E+00,    5.942E+00,    9.295E+00,,   -0.196
C,TE-129M ,NO ,    1.186E+01,    2.590E+01,    4.278E+01,,    0.277
C,I-131   ,NO ,    2.716E-01,    2.587E+00,    4.222E+00,,    0.064
C,BA-133  ,NO ,    2.426E+00,    3.131E+00,    4.764E+00,,    0.509
C,CS-134  ,NO ,    1.180E-01,    2.389E+00,    3.459E+00,,    0.034
C,CS-136  ,NO ,    6.088E-01,    2.496E+00,    4.151E+00,,    0.147
C,CS-137  ,NO ,   -2.146E+00,    2.245E+00,    3.379E+00,,   -0.635
C,CE-139  ,NO ,   -1.246E+00,    1.990E+00,    3.270E+00,,   -0.381
C,BA-140  ,NO ,    7.021E+00,    8.474E+00,    1.503E+01,,    0.467
C,LA-140  ,NO ,    5.145E-01,    2.753E+00,    4.571E+00,,    0.113
C,CE-141  ,NO ,   -1.189E+00,    3.539E+00,    5.926E+00,,   -0.201
C,CE-144  ,NO ,   -8.495E+00,    1.643E+01,    2.538E+01,,   -0.335
C,EU-152  ,NO ,   -4.217E+00,    6.807E+00,    1.020E+01,,   -0.413
C,EU-154  ,NO ,    1.977E-01,    4.446E+00,    7.089E+00,,    0.028
C,RA-226  ,NO ,   -1.034E+01,    5.444E+01,    9.379E+01,,   -0.110
C,TH-228  ,NO ,   -2.564E+00,    4.323E+00,    7.293E+00,,   -0.352
C,TH-232  ,NO ,    8.446E+00,    9.844E+00,    1.558E+01,,    0.542
C,U-235   ,NO ,   -1.852E+00,    1.731E+01,    2.706E+01,,   -0.068
C,U-238   ,NO ,    7.816E+01,    2.335E+02,    3.930E+02,,    0.199
C,AM-241  ,NO ,    1.264E+01,    1.995E+01,    3.041E+01,,    0.416

```

Sec. Review: Analyst: LIMS:

=====

VAX/VMS Teledyne Brown Eng. Laboratory Gamma Report: 14-AUG-2006 18:13:27.89
 TBE23 03017322 HpGe ***** Aquisition Date/Time: 14-AUG-2006 16:07:30.52

LIMS No., Customer Name, Client ID: L29576-5 WG EX/DRES

| | | | |
|---------------|-----------------|---------------|-----------------------|
| Sample ID | : 23L29576-5 | Smple Date: | 11-AUG-2006 13:40:00. |
| Sample Type | : WG | Geometry | : 233L082404 |
| Quantity | : 3.08890E+00 L | BKGFILE | : 23BG072806MT |
| Start Channel | : 50 | Energy Tol | : 1.00000 |
| End Channel | : 4090 | Real Time | : 0 02:05:42.84 |
| MDA Constant | : 0.00 | Pk Srch Sens: | 5.00000 |
| | | Live time | : 0 02:05:37.80 |
| | | Library Used: | LIBD |

| Pk | It | Energy | Area | Bkgnd | FWHM | Channel | %Eff | Cts/Sec | %Err | Fit |
|----|----|----------|------|-------|------|---------|----------|----------|-------|----------|
| 1 | 4 | 35.19* | 29 | 35 | 1.53 | 70.68 | 1.05E-01 | 3.88E-03 | 73.4 | 4.04E+00 |
| 2 | 4 | 36.84* | 49 | 58 | 1.57 | 73.96 | 1.35E-01 | 6.43E-03 | 45.1 | |
| 3 | 4 | 38.87 | 68 | 88 | 1.54 | 78.03 | 1.79E-01 | 9.00E-03 | 31.4 | |
| 4 | 4 | 42.30* | 62 | 179 | 1.77 | 84.88 | 2.67E-01 | 8.24E-03 | 39.8 | |
| 5 | 0 | 140.08* | 30 | 395 | 1.42 | 280.20 | 2.32E+00 | 4.02E-03 | 133.7 | |
| 6 | 0 | 198.26 | 143 | 264 | 1.54 | 396.46 | 2.11E+00 | 1.90E-02 | 25.4 | |
| 7 | 0 | 294.84* | 57 | 167 | 1.93 | 589.44 | 1.64E+00 | 7.50E-03 | 50.6 | |
| 8 | 0 | 352.16* | 109 | 136 | 1.32 | 704.01 | 1.43E+00 | 1.45E-02 | 25.5 | |
| 9 | 0 | 510.89* | 9 | 58 | 2.85 | 1021.34 | 1.07E+00 | 1.24E-03 | 257.6 | |
| 10 | 0 | 609.19* | 122 | 37 | 1.67 | 1217.89 | 9.40E-01 | 1.62E-02 | 15.2 | |
| 11 | 0 | 1121.05* | 35 | 32 | 2.03 | 2242.08 | 6.15E-01 | 4.58E-03 | 44.2 | |
| 12 | 0 | 1764.40* | 18 | 5 | 1.38 | 3530.95 | 4.38E-01 | 2.43E-03 | 37.3 | |

Flag: "*" = Peak area was modified by background subtraction

Nuclide Line Activity Report

Flag: "*" = Keyline

Summary of Nuclide Activity

Page : 2

Sample ID : 23L29576-5

Acquisition date : 14-AUG-2006 16:07:30

| | | |
|---|----|-------|
| Total number of lines in spectrum | 12 | |
| Number of unidentified lines | 12 | |
| Number of lines tentatively identified by NID | 0 | 0.00% |

**** There are no nuclides meeting summary criteria ****

Flags: "K" = Keyline not found

"M" = Manually accepted

"E" = Manually edited

"A" = Nuclide specific abn. limit

Unidentified Energy Lines
Sample ID : 23L29576-5

Page : 3
Acquisition date : 14-AUG-2006 16:07:30

| It | Energy | Area | Bkgnd | FWHM | Channel | Left | Pw | Cts/Sec | %Err | %Eff | Flags |
|----|---------|------|-------|------|---------|------|----|----------|------|----------|-------|
| 4 | 35.19 | 29 | 35 | 1.53 | 70.68 | 65 | 26 | 3.88E-03 | **** | 1.05E-01 | |
| 4 | 36.84 | 49 | 58 | 1.57 | 73.96 | 65 | 26 | 6.43E-03 | 90.2 | 1.35E-01 | |
| 4 | 38.87 | 68 | 88 | 1.54 | 78.03 | 65 | 26 | 9.00E-03 | 62.7 | 1.79E-01 | |
| 4 | 42.30 | 62 | 179 | 1.77 | 84.88 | 65 | 26 | 8.24E-03 | 79.6 | 2.67E-01 | |
| 0 | 140.08 | 30 | 395 | 1.42 | 280.20 | 273 | 12 | 4.02E-03 | **** | 2.32E+00 | |
| 0 | 198.26 | 143 | 264 | 1.54 | 396.46 | 390 | 14 | 1.90E-02 | 50.8 | 2.11E+00 | |
| 0 | 294.84 | 57 | 167 | 1.93 | 589.44 | 585 | 14 | 7.50E-03 | **** | 1.64E+00 | |
| 0 | 352.16 | 109 | 136 | 1.32 | 704.01 | 698 | 14 | 1.45E-02 | 50.9 | 1.43E+00 | |
| 0 | 510.89 | 9 | 58 | 2.85 | 1021.34 | 1013 | 20 | 1.24E-03 | **** | 1.07E+00 | |
| 0 | 609.19 | 122 | 37 | 1.67 | 1217.89 | 1209 | 16 | 1.62E-02 | 30.3 | 9.40E-01 | |
| 0 | 1121.05 | 35 | 32 | 2.03 | 2242.08 | 2234 | 20 | 4.58E-03 | 88.5 | 6.15E-01 | |
| 0 | 1764.40 | 18 | 5 | 1.38 | 3530.95 | 3528 | 9 | 2.43E-03 | 74.6 | 4.38E-01 | |

Flags: "T" = Tentatively associated

Summary of Nuclide Activity

Total number of lines in spectrum 12
 Number of unidentified lines 12
 Number of lines tentatively identified by NID 0 0.00%
 **** There are no nuclides meeting summary criteria ****

Flags: "K" = Keyline not found "M" = Manually accepted
 "E" = Manually edited "A" = Nuclide specific abn. limit

Interference Report

No interference correction performed

Combined Activity-MDA Report

---- Non-Identified Nuclides ----

| Nuclide | Key-Line Activity (pCi/L) | K.L. Ided | Act error | MDA (pCi/L) | MDA error | Act/MDA |
|---------|---------------------------------|--------------|-----------|----------------|-----------|---------|
| BE-7 | 4.984E+00 | | 2.456E+01 | 4.444E+01 | 0.000E+00 | 0.112 |
| NA-24 | 5.651E+01 | | 8.972E+01 | 1.819E+02 | 0.000E+00 | 0.311 |
| K-40 | -1.468E+01 | | 4.627E+01 | 1.007E+02 | 0.000E+00 | -0.146 |
| CR-51 | 1.083E+01 | | 2.455E+01 | 4.286E+01 | 0.000E+00 | 0.253 |
| MN-54 | 4.095E-01 | | 2.526E+00 | 4.620E+00 | 0.000E+00 | 0.089 |
| CO-57 | -7.020E-01 | | 2.897E+00 | 4.896E+00 | 0.000E+00 | -0.143 |
| CO-58 | -4.681E-01 | | 2.747E+00 | 4.815E+00 | 0.000E+00 | -0.097 |
| FE-59 | -4.110E+00 | | 5.728E+00 | 9.213E+00 | 0.000E+00 | -0.446 |
| CO-60 | -5.874E-01 | | 2.215E+00 | 4.077E+00 | 0.000E+00 | -0.144 |
| ZN-65 | 6.120E-01 | | 5.471E+00 | 8.776E+00 | 0.000E+00 | 0.070 |
| SE-75 | -2.965E+00 | | 3.828E+00 | 6.172E+00 | 0.000E+00 | -0.480 |
| SR-85 | 4.413E+00 | | 2.808E+00 | 5.513E+00 | 0.000E+00 | 0.800 |
| Y-88 | -2.038E+00 | | 2.762E+00 | 4.511E+00 | 0.000E+00 | -0.452 |
| NB-94 | 1.053E+00 | | 2.418E+00 | 4.534E+00 | 0.000E+00 | 0.232 |
| NB-95 | -4.302E-01 | | 2.433E+00 | 4.297E+00 | 0.000E+00 | -0.100 |
| ZR-95 | 8.336E-01 | | 4.920E+00 | 8.934E+00 | 0.000E+00 | 0.093 |

| | | | | | |
|---------|------------|-----------|-----------|-----------|--------|
| MO-99 | -1.840E+01 | 4.216E+01 | 7.206E+01 | 0.000E+00 | -0.255 |
| RU-103 | -2.241E+00 | 2.669E+00 | 4.444E+00 | 0.000E+00 | -0.504 |
| RU-106 | -4.104E+00 | 2.279E+01 | 4.036E+01 | 0.000E+00 | -0.102 |
| AG-110m | -7.625E-01 | 2.386E+00 | 4.160E+00 | 0.000E+00 | -0.183 |
| SN-113 | 4.014E-01 | 3.486E+00 | 6.287E+00 | 0.000E+00 | 0.064 |
| SB-124 | -1.369E+00 | 3.059E+00 | 4.460E+00 | 0.000E+00 | -0.307 |
| SB-125 | 9.456E-01 | 7.844E+00 | 1.415E+01 | 0.000E+00 | 0.067 |
| TE-129M | 1.066E+00 | 2.977E+01 | 5.368E+01 | 0.000E+00 | 0.020 |
| I-131 | 1.801E+00 | 3.797E+00 | 6.644E+00 | 0.000E+00 | 0.271 |
| BA-133 | 3.042E+00 | 4.109E+00 | 6.567E+00 | 0.000E+00 | 0.463 |
| CS-134 | 1.222E-02 | 2.811E+00 | 4.375E+00 | 0.000E+00 | 0.003 |
| CS-136 | -8.321E-01 | 2.852E+00 | 4.957E+00 | 0.000E+00 | -0.168 |
| CS-137 | -1.915E+00 | 2.929E+00 | 4.899E+00 | 0.000E+00 | -0.391 |
| CE-139 | -4.256E-01 | 2.935E+00 | 4.950E+00 | 0.000E+00 | -0.086 |
| BA-140 | 8.373E+00 | 1.066E+01 | 2.044E+01 | 0.000E+00 | 0.410 |
| LA-140 | -2.741E-01 | 3.019E+00 | 5.701E+00 | 0.000E+00 | -0.048 |
| CE-141 | -3.033E-01 | 5.868E+00 | 9.202E+00 | 0.000E+00 | -0.033 |
| CE-144 | 6.813E+00 | 2.468E+01 | 3.752E+01 | 0.000E+00 | 0.182 |
| EU-152 | 2.469E+00 | 9.340E+00 | 1.602E+01 | 0.000E+00 | 0.154 |
| EU-154 | -1.372E-01 | 6.061E+00 | 1.033E+01 | 0.000E+00 | -0.013 |
| RA-226 | -3.299E+01 | 7.367E+01 | 1.283E+02 | 0.000E+00 | -0.257 |
| AC-228 | 4.619E+00 | 1.069E+01 | 2.061E+01 | 0.000E+00 | 0.224 |
| TH-228 | -4.564E+00 | 5.808E+00 | 9.581E+00 | 0.000E+00 | -0.476 |
| TH-232 | 4.614E+00 | 1.068E+01 | 2.059E+01 | 0.000E+00 | 0.224 |
| U-235 | -1.391E+01 | 2.700E+01 | 3.922E+01 | 0.000E+00 | -0.355 |
| U-238 | 2.403E+01 | 3.069E+02 | 5.699E+02 | 0.000E+00 | 0.042 |
| AM-241 | -2.587E+01 | 1.576E+01 | 2.547E+01 | 0.000E+00 | -1.016 |

```

A,23L29576-5      ,08/14/2006 18:13,08/11/2006 13:40,    3.089E+00,L29576-5 WG EX
B,23L29576-5      ,LIBD      ,08/14/2006 10:01,233L082404
C,BE-7      ,NO ,    4.984E+00,    2.456E+01,    4.444E+01,,    0.112
C,NA-24     ,NO ,    5.651E+01,    8.972E+01,    1.819E+02,,    0.311
C,K-40      ,NO ,   -1.468E+01,    4.627E+01,    1.007E+02,,   -0.146
C,CR-51     ,NO ,    1.083E+01,    2.455E+01,    4.286E+01,,    0.253
C,MN-54     ,NO ,    4.095E-01,    2.526E+00,    4.620E+00,,    0.089
C,CO-57     ,NO ,   -7.020E-01,    2.897E+00,    4.896E+00,,   -0.143
C,CO-58     ,NO ,   -4.681E-01,    2.747E+00,    4.815E+00,,   -0.097
C,FE-59     ,NO ,   -4.110E+00,    5.728E+00,    9.213E+00,,   -0.446
C,CO-60     ,NO ,   -5.874E-01,    2.215E+00,    4.077E+00,,   -0.144
C,ZN-65     ,NO ,    6.120E-01,    5.471E+00,    8.776E+00,,    0.070
C,SE-75     ,NO ,   -2.965E+00,    3.828E+00,    6.172E+00,,   -0.480
C,SR-85     ,NO ,    4.413E+00,    2.808E+00,    5.513E+00,,    0.800
C,Y-88      ,NO ,   -2.038E+00,    2.762E+00,    4.511E+00,,   -0.452
C,NB-94     ,NO ,    1.053E+00,    2.418E+00,    4.534E+00,,    0.232
C,NB-95     ,NO ,   -4.302E-01,    2.433E+00,    4.297E+00,,   -0.100
C,ZR-95     ,NO ,    8.336E-01,    4.920E+00,    8.934E+00,,    0.093
C,MO-99     ,NO ,   -1.840E+01,    4.216E+01,    7.206E+01,,   -0.255
C,RU-103    ,NO ,   -2.241E+00,    2.669E+00,    4.444E+00,,   -0.504
C,RU-106    ,NO ,   -4.104E+00,    2.279E+01,    4.036E+01,,   -0.102
C,AG-110m   ,NO ,   -7.625E-01,    2.386E+00,    4.160E+00,,   -0.183
C,SN-113    ,NO ,    4.014E-01,    3.486E+00,    6.287E+00,,    0.064
C,SB-124    ,NO ,   -1.369E+00,    3.059E+00,    4.460E+00,,   -0.307
C,SB-125    ,NO ,    9.456E-01,    7.844E+00,    1.415E+01,,    0.067
C,TE-129M   ,NO ,    1.066E+00,    2.977E+01,    5.368E+01,,    0.020
C,I-131     ,NO ,    1.801E+00,    3.797E+00,    6.644E+00,,    0.271
C,BA-133    ,NO ,    3.042E+00,    4.109E+00,    6.567E+00,,    0.463
C,CS-134    ,NO ,    1.222E-02,    2.811E+00,    4.375E+00,,    0.003
C,CS-136    ,NO ,   -8.321E-01,    2.852E+00,    4.957E+00,,   -0.168
C,CS-137    ,NO ,   -1.915E+00,    2.929E+00,    4.899E+00,,   -0.391
C,CE-139    ,NO ,   -4.256E-01,    2.935E+00,    4.950E+00,,   -0.086
C,BA-140    ,NO ,    8.373E+00,    1.066E+01,    2.044E+01,,    0.410
C,LA-140    ,NO ,   -2.741E-01,    3.019E+00,    5.701E+00,,   -0.048
C,CE-141    ,NO ,   -3.033E-01,    5.868E+00,    9.202E+00,,   -0.033
C,CE-144    ,NO ,    6.813E+00,    2.468E+01,    3.752E+01,,    0.182
C,EU-152    ,NO ,    2.469E+00,    9.340E+00,    1.602E+01,,    0.154
C,EU-154    ,NO ,   -1.372E-01,    6.061E+00,    1.033E+01,,   -0.013
C,RA-226    ,NO ,   -3.299E+01,    7.367E+01,    1.283E+02,,   -0.257
C,AC-228    ,NO ,    4.619E+00,    1.069E+01,    2.061E+01,,    0.224
C,TH-228    ,NO ,   -4.564E+00,    5.808E+00,    9.581E+00,,   -0.476
C,TH-232    ,NO ,    4.614E+00,    1.068E+01,    2.059E+01,,    0.224
C,U-235     ,NO ,   -1.391E+01,    2.700E+01,    3.922E+01,,   -0.355
C,U-238     ,NO ,    2.403E+01,    3.069E+02,    5.699E+02,,    0.042
C,AM-241    ,NO ,   -2.587E+01,    1.576E+01,    2.547E+01,,   -1.016

```



2508 Quality Lane
Knoxville, TN 37931
865-690-6819 (Phone)

Work Order #: L29586 R1

Exelon

August 28, 2006

Kathy Shaw
Conestoga-Rovers & Associates
45 Farmington Valley Road
Plainville CT 06062

**Case Narrative - L29586
EX001-3ESPDRES-06**

08/28/2006 16:16

Sample Receipt

The following samples were received on August 15, 2006 in good condition, unless otherwise noted.

Revision 1

The total strontium result for sample WG-DB-MW-DN-108I-081406-GL-022 (L29586-1) and WG-DB-MW-DN-108I-081406-GL-023 (L29586-2) was above 2 pCi/L. The samples were analyzed for strontium 90 and the results confirmed the total strontium results.

Cross Reference Table

| Client ID | Laboratory ID | Station ID(if applicable) |
|--------------------------------|---------------|---------------------------|
| WG-DN-MW-DN-108I-081406-GL-022 | L29586-1 | |
| WG-DN-MW-DN-108I-081406-GL-023 | L29586-2 | |
| WG-DN-MW-DN-115S-081406-GL-024 | L29586-3 | |
| WG-DN-MW-DN-114I-081406-GL-025 | L29586-4 | |
| WG-DN-MW-DN-123S-080806-GL-026 | L29586-5 | |

Analytical Method Cross Reference Table

| Radiological Parameter | TBE Knoxville Method | Reference Method |
|------------------------|----------------------|------------------|
| Gamma Spectrometry | TBE-2007 | EPA 901.1 |
| H-3 (DIST) | TBE-2010 | |
| SR-90 | TBE-2019 | EPA 905.0 |
| TOTAL SR | TBE-2018 | EPA 905.0 |

Case Narrative - L29586
EX001-3ESPDRES-06

08/28/2006 16:16

Gamma Spectroscopy

Quality Control

Quality control samples were analyzed as WG4324.

Duplicate Sample

Duplicates were analyzed for the following samples. All duplicate results were within acceptance limits, unless otherwise noted.

| <u>Client ID</u> | <u>Laboratory ID</u> | <u>QC Sample #</u> |
|--------------------------------|----------------------|--------------------|
| WG-DN-MW-DN-108I-081406-GL-022 | L29586-4 | WG4324-1 |

H-3 (DIST)

Quality Control

Quality control samples were analyzed as WG4320.

Method Blank

All blanks were within acceptance limits, unless otherwise noted.

Laboratory Control Sample

All laboratory control samples were within acceptance limits, unless otherwise noted.

Duplicate Sample

Duplicates were analyzed for the following samples. All duplicate results were within acceptance limits, unless otherwise noted.

| <u>Client ID</u> | <u>Laboratory ID</u> | <u>QC Sample #</u> |
|--------------------------------|----------------------|--------------------|
| WG-DN-MW-DN-119S-081106-GL-017 | L29576-1 | WG4320-3 |



**TELEDYNE
BROWN ENGINEERING, INC.**

A Teledyne Technologies Company
2508 Quality Lane
Knoxville, TN 37931-3133

**Case Narrative - L29586
EX001-3ESPDRES-06**

08/28/2006 16:16

TOTAL SR

Quality Control

Quality control samples were analyzed as WG4326.

Method Blank

All blanks were within acceptance limits, unless otherwise noted.

Laboratory Control Sample

All laboratory control samples were within acceptance limits, unless otherwise noted.

Duplicate Sample

Duplicates were analyzed for the following samples. All duplicate results were within acceptance limits, unless otherwise noted.

| <u>Client ID</u> | <u>Laboratory ID</u> | <u>QC Sample #</u> |
|--------------------------------|----------------------|--------------------|
| WG-DN-MW-DN-1081-081406-GL-022 | L29586-1 | WG4326-3 |

Certification

This is to certify that Teledyne Brown Engineering - Environmental Services, located at 2508 Quality Lane, Knoxville, Tennessee, 37931, has analyzed, tested and documented samples as specified in the applicable purchase order.

This also certifies that requirements of applicable codes, standards and specifications have been fully met and that any quality assurance documentation which verified conformance to the purchase order is on file and may be examined upon request.

I hereby certify that the above statements are true and correct.



Keith Jeter
Operations Manager

Sample Receipt Summary

08/15/06 10:29

SR #: SR09923

Client: Exelon

Teledyne Brown Engineering
Sample Receipt Verification/Variance Report

Project #: EX001-3ESPDRES-06

LIMS #: L29586

Initiated By: PMARSHALL

Init Date: 08/15/06

Receive Date: 08/15/06

Notification of Variance

Person Notified:

Contacted By:

Notify Date:

Notify Method:

Notify Comment:

Client Response

Person Responding:

Response Date:

Response Method:

Response Comment

| Criteria | Yes | No | NA | Comment |
|--|-----|----|----|--|
| 1 Shipping container custody seals present and intact. | | | NA | |
| 2 Sample container custody seals present and intact. | | | NA | |
| 3 Sample containers received in good condition | | | Y | |
| 4 Chain of custody received with samples | | | Y | |
| 5 All samples listed on chain of custody received | | | Y | |
| 6 Sample container labels present and legible. | | | Y | |
| 7 Information on container labels correspond with chain of custody | | | Y | |
| 8 Sample(s) properly preserved and in appropriate container(s) | | | N | |
| 9 Other (Describe) | | | NA | Gamma samples required 5mL of nitric to bring pH to 2. |

CONESTOGA-ROVERS & ASSOCIATES

9033 Meridian Way
West Chester, Ohio 45069
513-942-4750 phone
513-942-8585 fax



SHIPPED TO
(Laboratory Name):

TELEDYNE BROWN ENGINEERING

29586

REFERENCE NUMBER:

45136-23-0015

PROJECT NAME:

EXCELON DRESDEN

CHAIN-OF-CUSTODY RECORD

SAMPLER'S
SIGNATURE:

[Signature]

PRINTED
NAME:

GREGORY T LEWIS

| SEQ. No. | DATE | TIME | SAMPLE IDENTIFICATION No. | SAMPLE MATRIX | No. OF CONTAINERS | PARAMETERS | REMARKS |
|----------------------------|------|------|--------------------------------|------------------|-------------------|------------|---------|
| 8-14-06 | 0945 | | W6-DN-MW-DN-108E-081406-6L-022 | H ₂ O | 2 | X X X | |
| | 1010 | | 108E-1-023 | | 2 | X X X | |
| | 1110 | | 115S-1-024 | | 2 | X X X | |
| | 1255 | | 114E-1-025 | | 2 | X X X | |
| 8-2-06 | 1445 | | W6-DN-MW-DN-123S-080806-6L-026 | H ₂ O | 1 | X | |
| TOTAL NUMBER OF CONTAINERS | | | | | | 60 | |

| | | | |
|----------------------|---------------|--------------|-------|
| RELINQUISHED BY: | DATE: 8-14-06 | RECEIVED BY: | DATE: |
| ① <i>[Signature]</i> | TIME: 1330 | ② | TIME: |
| RELINQUISHED BY: | DATE: | RECEIVED BY: | DATE: |
| ② | TIME: | ③ | TIME: |
| RELINQUISHED BY: | DATE: | RECEIVED BY: | DATE: |
| ③ | TIME: | ④ | TIME: |

METHOD OF SHIPMENT: DHL EXPRESS

AIR BILL No.

45329187746

White -Fully Executed Copy
Yellow -Receiving Laboratory Copy
Pink -Shipper Copy
Goldenrod -Sampler Copy

SAMPLE TEAM:

G. LEWIS

N. ZIEGLER

RECEIVED FOR LABORATORY BY:

[Signature]

004825

DATE: 8/15/06 TIME: 1100

8/15/06

TELEDYNE BROWN ENGINEERING
2508 Quality Lane
Knoxville, TN 37931-3133

ACKNOWLEDGEMENT

This is not an invoice

August 15, 2006

Kathy Shaw
Conestoga-Rovers & Associates
45 Farmington Valley Road
Plainville, CT 06062

The following sample(s) were received at Teledyne Brown Engineering Knoxville laboratory on August 15, 2006. The sample(s) have been scheduled for the analyses listed below and the report is scheduled for completion by August 18, 2006. Please review the following login information and pricing. Contact me if anything is incorrect or you have questions about the status of your sample(s).

Thank you for choosing Teledyne Brown Engineering for your analytical needs.

Sincerely,
Rebecca Charles
Project Manager
(865) 934-0379Project ID: EX001-3ESPDRES-06
P.O. #: 00411203
Release #:
Contract#: 00411203
Kathy Shaw, FAX#: 860-747-1900, larry.walton@exeloncorp.com

| Client ID/ Station | Laboratory ID Analysis | Vol/Units Price | Start Collect Date/Time | End Collect Date/Time |
|------------------------------|---------------------------|--------------------|----------------------------|--------------------------|
| WG-DN-MW-DN-108I-081406-GL-0 | L29586-1 | | 08/14/06:0945 | |
| WG | GELI | 135.00 | | |
| WG | H-3 (DIST) | 135.00 | | |
| WG | SR-90 (FAST) | 175.00 | | |
| WG-DN-MW-DN-108I-081406-GL-0 | L29586-2 | | 08/14/06:1010 | |
| WG | GELI | 135.00 | | |
| WG | H-3 (DIST) | 135.00 | | |
| WG | SR-90 (FAST) | 175.00 | | |
| WG-DN-MW-DN-115S-081406-GL-0 | L29586-3 | | 08/14/06:1110 | |
| WG | GELI | 135.00 | | |
| WG | H-3 (DIST) | 135.00 | | |
| WG | SR-90 (FAST) | 175.00 | | |
| WG-DN-MW-DN-114I-081406-GL-0 | L29586-4 | | 08/14/06:1255 | |
| WG | GELI | 135.00 | | |
| WG | H-3 (DIST) | 135.00 | | |
| WG | SR-90 (FAST) | 175.00 | | |
| WG-DN-MW-DN-123S-080806-GL-0 | L29586-5 | | 08/08/06:1445 | |

| Client ID/ Station | Laboratory ID Analysis | Vol/Units Price | Start Collect Date/Time | End Collect Date/Time |
|-----------------------|---------------------------|--------------------|----------------------------|--------------------------|
|-----------------------|---------------------------|--------------------|----------------------------|--------------------------|

| | | | | |
|----|------------|--------|--|--|
| WG | H-3 (DIST) | 135.00 | | |
|----|------------|--------|--|--|

End of document

Internal Chain of Custody

Internal Chain of Custody

Sample # L29586-1 Containernum 1

Prod Analyst
SR-90 LCB
H-3 (DIST) DW
SR-90 (FAST) LCB
GELI DW

| Relinquish Date | Relinquish By | | Received By | |
|------------------|---------------|------------------|-------------|------------------|
| 08/15/2006 00:00 | | | 099999 | Sample Custodian |
| 08/15/2006 12:43 | 099999 | Sample Custodian | 030854 | Donna Webb |
| 08/15/2006 13:43 | 030854 | Donna Webb | 099999 | Sample Custodian |

Sample # L29586-1 Containernum 2

Prod Analyst
SR-90 LCB
H-3 (DIST) DW
SR-90 (FAST) LCB
GELI DW

| Relinquish Date | Relinquish By | | Received By | |
|------------------|---------------|------------------|-------------|------------------|
| 08/15/2006 00:00 | | | 099999 | Sample Custodian |
| 08/15/2006 12:43 | 030854 | Donna Webb | 029728 | Lauren Larsen |
| 08/15/2006 12:43 | 099999 | Sample Custodian | 030854 | Donna Webb |
| 08/17/2006 15:50 | 029728 | Lauren Larsen | 030854 | Donna Webb |
| 08/17/2006 15:51 | 030854 | Donna Webb | 099999 | Sample Custodian |

Sample # L29586-2 Containernum 1

Prod Analyst
SR-90 LCB
H-3 (DIST) DW
SR-90 (FAST) LCB
GELI DW

| Relinquish Date | Relinquish By | | Received By | |
|------------------|---------------|------------------|-------------|------------------|
| 08/15/2006 00:00 | | | 099999 | Sample Custodian |
| 08/15/2006 12:43 | 099999 | Sample Custodian | 030854 | Donna Webb |
| 08/15/2006 13:43 | 030854 | Donna Webb | 099999 | Sample Custodian |

Sample # L29586-2 Containernum 2

Prod Analyst
SR-90 LCB
H-3 (DIST) DW
SR-90 (FAST) LCB
GELI DW

| Relinquish Date | Relinquish By | | Received By | |
|------------------|---------------|------------------|-------------|------------------|
| 08/15/2006 00:00 | | | 099999 | Sample Custodian |
| 08/15/2006 12:43 | 030854 | Donna Webb | 029728 | Lauren Larsen |
| 08/15/2006 12:43 | 099999 | Sample Custodian | 030854 | Donna Webb |

Internal Chain of Custody

Sample # L29586-2 Containernum 2

| Relinquish Date | | | Received By | |
|------------------|--------|---------------|-------------|------------------|
| 08/16/2006 17:28 | 029728 | Lauren Larsen | 030854 | Donna Webb |
| 08/16/2006 17:28 | 030854 | Donna Webb | 099999 | Sample Custodian |

Sample # L29586-3 Containernum 1

| Prod | | Analyst | | |
|--------------|--|---------|--|--|
| H-3 (DIST) | | DW | | |
| SR-90 (FAST) | | LCB | | |
| GELI | | DW | | |

| Relinquish Date | Relinquish By | | Received By | |
|------------------|---------------|------------------|-------------|------------------|
| 08/15/2006 00:00 | | | 099999 | Sample Custodian |
| 08/15/2006 12:43 | 099999 | Sample Custodian | 030854 | Donna Webb |
| 08/15/2006 13:43 | 030854 | Donna Webb | 099999 | Sample Custodian |

Sample # L29586-3 Containernum 2

| Prod | | Analyst | | |
|--------------|--|---------|--|--|
| H-3 (DIST) | | DW | | |
| SR-90 (FAST) | | LCB | | |
| GELI | | DW | | |

| Relinquish Date | Relinquish By | | Received By | |
|------------------|---------------|------------------|-------------|------------------|
| 08/15/2006 00:00 | | | 099999 | Sample Custodian |
| 08/15/2006 12:43 | 030854 | Donna Webb | 029728 | Lauren Larsen |
| 08/15/2006 12:43 | 099999 | Sample Custodian | 030854 | Donna Webb |
| 08/17/2006 15:50 | 029728 | Lauren Larsen | 030854 | Donna Webb |
| 08/17/2006 15:51 | 030854 | Donna Webb | 099999 | Sample Custodian |

Sample # L29586-4 Containernum 1

| Prod | | Analyst | | |
|--------------|--|---------|--|--|
| H-3 (DIST) | | DW | | |
| SR-90 (FAST) | | LCB | | |
| GELI | | DW | | |

| Relinquish Date | Relinquish By | | Received By | |
|------------------|---------------|------------------|-------------|------------------|
| 08/15/2006 00:00 | | | 099999 | Sample Custodian |
| 08/15/2006 12:43 | 099999 | Sample Custodian | 030854 | Donna Webb |
| 08/15/2006 13:43 | 030854 | Donna Webb | 099999 | Sample Custodian |

Sample # L29586-4 Containernum 2

| Prod | | Analyst | | |
|--------------|--|---------|--|--|
| H-3 (DIST) | | DW | | |
| SR-90 (FAST) | | LCB | | |
| GELI | | DW | | |

| Relinquish Date | Relinquish By | | Received By | |
|------------------|---------------|------------------|-------------|------------------|
| 08/15/2006 00:00 | | | 099999 | Sample Custodian |
| 08/15/2006 12:43 | 030854 | Donna Webb | 029728 | Lauren Larsen |
| 08/15/2006 12:43 | 099999 | Sample Custodian | 030854 | Donna Webb |

Internal Chain of Custody

Sample # L29586-4 Containernum 2

| Relinquish Date | | | Received By | |
|------------------|--------|---------------|-------------|------------------|
| 08/17/2006 15:50 | 029728 | Lauren Larsen | 030854 | Donna Webb |
| 08/17/2006 15:51 | 030854 | Donna Webb | 099999 | Sample Custodian |

Sample # L29586-5 Containernum 1

| Prod | | Analyst | | |
|------------------|---------------|------------------|-------------|------------------|
| H-3 (DIST) | | DW | | |
| Relinquish Date | Relinquish By | | Received By | |
| 08/15/2006 00:00 | | | 099999 | Sample Custodian |
| 08/15/2006 12:43 | 099999 | Sample Custodian | 030854 | Donna Webb |

Sample # L29586-5 Containernum 2

| Prod | | Analyst | | |
|------------------|---------------|---------|-------------|------------------|
| H-3 (DIST) | | DW | | |
| Relinquish Date | Relinquish By | | Received By | |
| 08/15/2006 00:00 | | | 099999 | Sample Custodian |

Teledyne Brown Engineering
Internal Chain of Custody
Supplemental Sheet

L29586

L29586-1 WG WG-DN-MW-DN-108I-081406-GL-022

| <u>Process step</u> | <u>Prod</u> | <u>Analyst</u> | <u>Date</u> |
|---------------------|--------------|----------------|-------------|
| Login | | RCHARLES | 08/15/06 |
| Aliquot | GELI | DW | 08/15/06 |
| Aliquot | H-3 (DIST) | DW | 08/15/06 |
| Aliquot | SR-90 | LCB | 08/15/06 |
| Aliquot | SR-90 (FAST) | LCB | 08/15/06 |
| Count Room | GELI | ILL | 08/16/06 |
| Count Room | H-3 (DIST) | KOJ | 08/15/06 |
| Count Room | SR-90 | KOJ | 08/28/06 |
| Count Room | SR-90 (FAST) | KOJ | 08/16/06 |

L29586-2 WG WG-DN-MW-DN-108I-081406-GL-023

| <u>Process step</u> | <u>Prod</u> | <u>Analyst</u> | <u>Date</u> |
|---------------------|--------------|----------------|-------------|
| Login | | RCHARLES | 08/15/06 |
| Aliquot | GELI | DW | 08/15/06 |
| Aliquot | H-3 (DIST) | DW | 08/15/06 |
| Aliquot | SR-90 | LCB | 08/15/06 |
| Aliquot | SR-90 (FAST) | LCB | 08/15/06 |
| Count Room | GELI | ILL | 08/16/06 |
| Count Room | H-3 (DIST) | KOJ | 08/15/06 |
| Count Room | SR-90 | KOJ | 08/28/06 |
| Count Room | SR-90 (FAST) | KOJ | 08/16/06 |

L29586-3 WG WG-DN-MW-DN-115S-081406-GL-024

| <u>Process step</u> | <u>Prod</u> | <u>Analyst</u> | <u>Date</u> |
|---------------------|--------------|----------------|-------------|
| Login | | PMARSHALL | 08/15/06 |
| Aliquot | GELI | DW | 08/15/06 |
| Aliquot | H-3 (DIST) | DW | 08/15/06 |
| Aliquot | SR-90 (FAST) | LCB | 08/15/06 |
| Count Room | GELI | ILL | 08/16/06 |
| Count Room | H-3 (DIST) | KOJ | 08/16/06 |
| Count Room | SR-90 (FAST) | KOJ | 08/16/06 |

L29586-4 WG WG-DN-MW-DN-114I-081406-GL-025

| <u>Process step</u> | <u>Prod</u> | <u>Analyst</u> | <u>Date</u> |
|---------------------|--------------|----------------|-------------|
| Login | | PMARSHALL | 08/15/06 |
| Aliquot | GELI | DW | 08/15/06 |
| Aliquot | H-3 (DIST) | DW | 08/15/06 |
| Aliquot | SR-90 (FAST) | LCB | 08/15/06 |
| Count Room | GELI | ILL | 08/16/06 |
| Count Room | H-3 (DIST) | KOJ | 08/16/06 |
| Count Room | SR-90 (FAST) | KOJ | 08/16/06 |

L29586-5 WG WG-DN-MW-DN-123S-080806-GL-026

| <u>Process step</u> | <u>Prod</u> | <u>Analyst</u> | <u>Date</u> |
|---------------------|-------------|----------------|-------------|
| Login | | PMARSHALL | 08/15/06 |

08/28/06

Teledyne Brown Engineering
Internal Chain of Custody
Supplemental Sheet

Page 2 of 2

L29586

L29586-5 WG WG-DN-MW-DN-123S-080806-GL-026

Aliquot H-3 (DIST) DW 08/15/06

Count Room H-3 (DIST) KOJ 08/16/06

Analytical Results Summary

Report of Analysis

08/28/06 16:03
L29586

Conestoga-Rovers & Associates
EX001-3ESPDRES-06

Kathy Shaw

| Sample ID: WG-DN-MW-DN-108I-081406-GL-022 | | | | Collect Start: 08/14/2006 09:45 | | | | Matrix: Ground Water | | | | (WG) | |
|---|------|---------------|---------------------|---------------------------------|-------|-------|----------------|----------------------|----------------|------------|------------|-------------|-------------|
| Station: | | | | Collect Stop: | | | | Volume: | | | | | |
| Description: | | | | Receive Date: 08/15/2006 | | | | % Moisture: | | | | | |
| LIMS Number: L29586-1 | | | | | | | | | | | | | |
| Radionuclide | SOP# | Activity Conc | Uncertainty 2 Sigma | MDC | Units | Run # | Aliquot Volume | Aliquot Units | Reference Date | Count Date | Count Time | Count Units | Flag Values |
| H-3 (DIST) | 2010 | 1.70E+02 | 1.22E+02 | 1.84E+02 | pCi/L | | 10 | ml | | 08/15/06 | 60 | M | U |
| SR-90 | 2019 | 4.74E+00 | 2.45E+00 | 3.43E+00 | pCi/L | | 450 | ml | 08/14/06 09:45 | 08/28/06 | 50 | M | + |
| TOTAL SR | 2018 | 3.21E+00 | 1.00E+00 | 1.48E+00 | pCi/L | | 450 | ml | 08/14/06 09:45 | 08/16/06 | 100 | M | + |
| MN-54 | 2007 | -1.52E+00 | 1.97E+00 | 3.14E+00 | pCi/L | | 1005.08 | ml | 08/14/06 09:45 | 08/16/06 | 62920 | Sec | U |
| CO-58 | 2007 | 1.60E-01 | 1.84E+00 | 3.07E+00 | pCi/L | | 1005.08 | ml | 08/14/06 09:45 | 08/16/06 | 62920 | Sec | U |
| FE-59 | 2007 | 4.07E-01 | 3.72E+00 | 6.05E+00 | pCi/L | | 1005.08 | ml | 08/14/06 09:45 | 08/16/06 | 62920 | Sec | U |
| CO-60 | 2007 | -8.05E-01 | 2.96E+00 | 4.32E+00 | pCi/L | | 1005.08 | ml | 08/14/06 09:45 | 08/16/06 | 62920 | Sec | U |
| ZN-65 | 2007 | -4.74E+00 | 4.97E+00 | 6.38E+00 | pCi/L | | 1005.08 | ml | 08/14/06 09:45 | 08/16/06 | 62920 | Sec | U |
| NB-95 | 2007 | -2.04E-01 | 2.11E+00 | 3.04E+00 | pCi/L | | 1005.08 | ml | 08/14/06 09:45 | 08/16/06 | 62920 | Sec | U |
| ZR-95 | 2007 | 1.37E+00 | 3.13E+00 | 5.31E+00 | pCi/L | | 1005.08 | ml | 08/14/06 09:45 | 08/16/06 | 62920 | Sec | U |
| CS-134 | 2007 | 1.26E+00 | 2.04E+00 | 2.95E+00 | pCi/L | | 1005.08 | ml | 08/14/06 09:45 | 08/16/06 | 62920 | Sec | U |
| CS-137 | 2007 | 5.24E-01 | 1.97E+00 | 3.34E+00 | pCi/L | | 1005.08 | ml | 08/14/06 09:45 | 08/16/06 | 62920 | Sec | U |
| BA-140 | 2007 | 3.98E+00 | 7.12E+00 | 1.18E+01 | pCi/L | | 1005.08 | ml | 08/14/06 09:45 | 08/16/06 | 62920 | Sec | U |
| LA-140 | 2007 | -1.55E+00 | 2.55E+00 | 4.00E+00 | pCi/L | | 1005.08 | ml | 08/14/06 09:45 | 08/16/06 | 62920 | Sec | U |

Flag Values

U = Compound/Analyte not detected or less than 3 sigma
 + = Activity concentration exceeds MDC and 3 sigma; peak identified(gamma only)
 U* = Compound/Analyte not detected. Peak not identified, but forced activity concentration exceeds MDC and 3 sigma
 High = Activity concentration exceeds customer reporting value
 Spec = MDC exceeds customer technical specification
 L = Low recovery
 H = High recovery

Bolded text indicates reportable value.

No = Peak not identified in gamma spectrum
 Yes = Peak identified in gamma spectrum
 **** Results are reported on an as received basis unless otherwise noted

MDC - Minimum Detectable Concentration

Report of Analysis

08/28/06 16:03

L29586

Conestoga-Rovers & Associates

EX001-3ESPDRES-06

Kathy Shaw

| Sample ID: WG-DN-MW-DN-108L-081406-GL-023 | | | | | | | | | | | | | Collect Start: 08/14/2006 10:10 | | Matrix: Ground Water | | (WG) |
|---|------|---------------|---------------------|----------|-------|-------|----------------|---------------|----------------|------------|------------|-------------|---------------------------------|------|----------------------|--|------|
| Station: | | | | | | | | | | | | | Collect Stop: | | Volume: | | |
| Description: | | | | | | | | | | | | | Receive Date: 08/15/2006 | | % Moisture: | | |
| LIMS Number: L29586-2 | | | | | | | | | | | | | | | | | |
| Radionuclide | SOP# | Activity Conc | Uncertainty 2 Sigma | MDC | Units | Run # | Aliquot Volume | Aliquot Units | Reference Date | Count Date | Count Time | Count Units | Flag Values | | | | |
| H-3 (DIST) | 2010 | 2.10E+02 | 1.24E+02 | 1.83E+02 | pCi/L | | 10 | ml | | 08/15/06 | 60 | M | + | | | | |
| SR-90 | 2019 | 2.17E+00 | 7.83E-01 | 1.05E+00 | pCi/L | | 450 | ml | 08/14/06 10:10 | 08/28/06 | 180 | M | + | | | | |
| TOTAL SR | 2018 | 2.72E+00 | 1.01E+00 | 1.59E+00 | pCi/L | | 450 | ml | 08/14/06 10:10 | 08/16/06 | 100 | M | + | High | | | |
| MN-54 | 2007 | -5.66E-01 | 4.13E+00 | 6.56E+00 | pCi/L | | 3137.22 | ml | 08/14/06 10:10 | 08/16/06 | 7382 | Sec | U | No | | | |
| CO-58 | 2007 | -1.03E+00 | 3.73E+00 | 5.82E+00 | pCi/L | | 3137.22 | ml | 08/14/06 10:10 | 08/16/06 | 7382 | Sec | U | No | | | |
| FE-59 | 2007 | 3.62E+00 | 6.81E+00 | 1.22E+01 | pCi/L | | 3137.22 | ml | 08/14/06 10:10 | 08/16/06 | 7382 | Sec | U | No | | | |
| CO-60 | 2007 | 2.22E+00 | 3.80E+00 | 6.82E+00 | pCi/L | | 3137.22 | ml | 08/14/06 10:10 | 08/16/06 | 7382 | Sec | U | No | | | |
| ZN-65 | 2007 | 2.32E+00 | 8.10E+00 | 1.23E+01 | pCi/L | | 3137.22 | ml | 08/14/06 10:10 | 08/16/06 | 7382 | Sec | U | No | | | |
| NB-95 | 2007 | 5.00E-01 | 4.08E+00 | 6.73E+00 | pCi/L | | 3137.22 | ml | 08/14/06 10:10 | 08/16/06 | 7382 | Sec | U | No | | | |
| ZR-95 | 2007 | -5.25E+00 | 6.03E+00 | 8.56E+00 | pCi/L | | 3137.22 | ml | 08/14/06 10:10 | 08/16/06 | 7382 | Sec | U | No | | | |
| CS-134 | 2007 | 1.57E+00 | 4.04E+00 | 6.13E+00 | pCi/L | | 3137.22 | ml | 08/14/06 10:10 | 08/16/06 | 7382 | Sec | U | No | | | |
| CS-137 | 2007 | -3.13E+00 | 3.71E+00 | 5.43E+00 | pCi/L | | 3137.22 | ml | 08/14/06 10:10 | 08/16/06 | 7382 | Sec | U | No | | | |
| BA-140 | 2007 | -1.64E+00 | 1.43E+01 | 2.37E+01 | pCi/L | | 3137.22 | ml | 08/14/06 10:10 | 08/16/06 | 7382 | Sec | U | No | | | |
| LA-140 | 2007 | -3.61E+00 | 4.74E+00 | 6.73E+00 | pCi/L | | 3137.22 | ml | 08/14/06 10:10 | 08/16/06 | 7382 | Sec | U | No | | | |

Flag Values

U = Compound/Analyte not detected or less than 3 sigma
 + = Activity concentration exceeds MDC and 3 sigma; peak identified (gamma only)
 U* = Compound/Analyte not detected. Peak not identified, but forced activity concentration exceeds MDC and 3 sigma
 High = Activity concentration exceeds customer reporting value
 Spec = MDC exceeds customer technical specification
 L = Low recovery
 H = High recovery

Bolded text indicates reportable value.

No = Peak not identified in gamma spectrum
 Yes = Peak identified in gamma spectrum
 **** Results are reported on an as received basis unless otherwise noted

MDC - Minimum Detectable Concentration

Report of Analysis

08/28/06 16:03

L29586

Conestoga-Rovers & Associates

EX001-3ESPDRES-06

Kathy Shaw

| Sample ID: WG-DN-MW-DN-115S-081406-GL-024 | | | | Collect Start: 08/14/2006 11:10 | | | Matrix: Ground Water | | | (WG) | | | |
|---|------|---------------|---------------------|---------------------------------|-------|-------|----------------------|---------------|----------------|------------|------------|-------------|-------------|
| Station: | | | | Collect Stop: | | | Volume: | | | | | | |
| Description: | | | | Receive Date: 08/15/2006 | | | % Moisture: | | | | | | |
| LIMS Number: L29586-3 | | | | | | | | | | | | | |
| Radionuclide | SOP# | Activity Conc | Uncertainty 2 Sigma | MDC | Units | Run # | Aliquot Volume | Aliquot Units | Reference Date | Count Date | Count Time | Count Units | Flag Values |
| H-3 (DIST) | 2010 | 1.79E+02 | 1.21E+02 | 1.81E+02 | pCi/L | | 10 | ml | | 08/16/06 | 60 | M | U |
| TOTAL SR | 2018 | 1.33E-01 | 9.14E-01 | 1.88E+00 | pCi/L | | 450 | ml | 08/14/06 11:10 | 08/16/06 | 100 | M | U |
| MN-54 | 2007 | 1.47E+00 | 2.41E+00 | 4.14E+00 | pCi/L | | 3136.73 | ml | 08/14/06 11:10 | 08/16/06 | 12557 | Sec | U |
| CO-58 | 2007 | -1.74E+00 | 2.31E+00 | 3.47E+00 | pCi/L | | 3136.73 | ml | 08/14/06 11:10 | 08/16/06 | 12557 | Sec | U |
| FE-59 | 2007 | -2.38E+00 | 4.65E+00 | 7.38E+00 | pCi/L | | 3136.73 | ml | 08/14/06 11:10 | 08/16/06 | 12557 | Sec | U |
| CO-60 | 2007 | -2.40E+00 | 2.22E+00 | 3.05E+00 | pCi/L | | 3136.73 | ml | 08/14/06 11:10 | 08/16/06 | 12557 | Sec | U |
| ZN-65 | 2007 | 2.03E+00 | 5.53E+00 | 8.44E+00 | pCi/L | | 3136.73 | ml | 08/14/06 11:10 | 08/16/06 | 12557 | Sec | U |
| NB-95 | 2007 | 1.15E+00 | 2.59E+00 | 4.40E+00 | pCi/L | | 3136.73 | ml | 08/14/06 11:10 | 08/16/06 | 12557 | Sec | U |
| ZR-95 | 2007 | -1.27E-01 | 4.51E+00 | 7.36E+00 | pCi/L | | 3136.73 | ml | 08/14/06 11:10 | 08/16/06 | 12557 | Sec | U |
| CS-134 | 2007 | 1.21E+00 | 2.35E+00 | 3.58E+00 | pCi/L | | 3136.73 | ml | 08/14/06 11:10 | 08/16/06 | 12557 | Sec | U |
| CS-137 | 2007 | 1.48E+00 | 2.92E+00 | 4.99E+00 | pCi/L | | 3136.73 | ml | 08/14/06 11:10 | 08/16/06 | 12557 | Sec | U |
| BA-140 | 2007 | -3.19E+00 | 8.96E+00 | 1.45E+01 | pCi/L | | 3136.73 | ml | 08/14/06 11:10 | 08/16/06 | 12557 | Sec | U |
| LA-140 | 2007 | -2.17E-01 | 3.26E+00 | 5.30E+00 | pCi/L | | 3136.73 | ml | 08/14/06 11:10 | 08/16/06 | 12557 | Sec | U |

Flag Values

U = Compound/Analyte not detected or less than 3 sigma
 + = Activity concentration exceeds MDC and 3 sigma, peak identified(gamma only)
 U* = Compound/Analyte not detected. Peak not identified, but forced activity concentration exceeds MDC and 3 sigma
 High = Activity concentration exceeds customer reporting value
 Spec = MDC exceeds customer technical specification
 L = Low recovery
 H = High recovery

Bolded text indicates reportable value.

No = Peak not identified in gamma spectrum
 Yes = Peak identified in gamma spectrum
 **** Results are reported on an as received basis unless otherwise noted

MDC - Minimum Detectable Concentration

Report of Analysis

08/28/06 16:03

L29586

Conestoga-Rovers & Associates

EX001-3ESPDRES-06

Kathy Shaw

| | | | |
|--|---------------------------------|----------------------|------|
| Sample ID: WG-DN-MW-DN-1141-081406-GL-025 | Collect Start: 08/14/2006 12:55 | Matrix: Ground Water | (WG) |
| Station: | Collect Stop: | Volume: | |
| Description: | Receive Date: 08/15/2006 | % Moisture: | |
| LIMS Number: L29586-4 | | | |

| Radionuclide | SOP# | Activity Conc | Uncertainty 2 Sigma | MDC | Units | Run # | Aliquot Volume | Aliquot Units | Reference Date | Count Date | Count Time | Count Units | Flag Values |
|--------------|------|-----------------|---------------------|-----------------|-------|-------|----------------|---------------|----------------|------------|------------|-------------|-------------|
| H-3 (DIST) | 2010 | 4.19E+03 | 4.73E+02 | 3.31E+02 | pCi/L | | 10 | ml | 08/14/06 12:55 | 08/16/06 | 18.36 | M | + High |
| TOTAL SR | 2018 | -2.59E-01 | 6.27E-01 | 1.36E+00 | pCi/L | | 450 | ml | 08/14/06 12:55 | 08/16/06 | 100 | M | U |
| MN-54 | 2007 | -4.32E+00 | 2.71E+00 | 3.65E+00 | pCi/L | | 2955.54 | ml | 08/14/06 12:55 | 08/16/06 | 11457 | Sec | U |
| CO-58 | 2007 | -5.11E-01 | 2.55E+00 | 4.08E+00 | pCi/L | | 2955.54 | ml | 08/14/06 12:55 | 08/16/06 | 11457 | Sec | U |
| FE-59 | 2007 | -7.77E-01 | 5.37E+00 | 8.47E+00 | pCi/L | | 2955.54 | ml | 08/14/06 12:55 | 08/16/06 | 11457 | Sec | U |
| CO-60 | 2007 | 1.23E+00 | 2.70E+00 | 4.75E+00 | pCi/L | | 2955.54 | ml | 08/14/06 12:55 | 08/16/06 | 11457 | Sec | U |
| ZN-65 | 2007 | 2.71E+00 | 6.10E+00 | 9.15E+00 | pCi/L | | 2955.54 | ml | 08/14/06 12:55 | 08/16/06 | 11457 | Sec | U |
| NB-95 | 2007 | 2.53E+00 | 3.10E+00 | 4.87E+00 | pCi/L | | 2955.54 | ml | 08/14/06 12:55 | 08/16/06 | 11457 | Sec | U |
| ZR-95 | 2007 | 2.11E+00 | 4.42E+00 | 7.61E+00 | pCi/L | | 2955.54 | ml | 08/14/06 12:55 | 08/16/06 | 11457 | Sec | U |
| CS-134 | 2007 | -4.20E-01 | 2.84E+00 | 4.03E+00 | pCi/L | | 2955.54 | ml | 08/14/06 12:55 | 08/16/06 | 11457 | Sec | U |
| CS-137 | 2007 | 1.10E+00 | 2.83E+00 | 4.85E+00 | pCi/L | | 2955.54 | ml | 08/14/06 12:55 | 08/16/06 | 11457 | Sec | U |
| BA-140 | 2007 | -1.42E+00 | 1.01E+01 | 1.68E+01 | pCi/L | | 2955.54 | ml | 08/14/06 12:55 | 08/16/06 | 11457 | Sec | U |
| LA-140 | 2007 | -2.22E+00 | 3.17E+00 | 4.57E+00 | pCi/L | | 2955.54 | ml | 08/14/06 12:55 | 08/16/06 | 11457 | Sec | U |

| | | | |
|--|---------------------------------|----------------------|------|
| Sample ID: WG-DN-MW-DN-1235-080806-GL-026 | Collect Start: 08/08/2006 14:45 | Matrix: Ground Water | (WG) |
| Station: | Collect Stop: | Volume: | |
| Description: | Receive Date: 08/15/2006 | % Moisture: | |
| LIMS Number: L29586-5 | | | |

| Radionuclide | SOP# | Activity Conc | Uncertainty 2 Sigma | MDC | Units | Run # | Aliquot Volume | Aliquot Units | Reference Date | Count Date | Count Time | Count Units | Flag Values |
|--------------|------|---------------|---------------------|-----------------|-------|-------|----------------|---------------|----------------|------------|------------|-------------|-------------|
| H-3 (DIST) | 2010 | -1.08E+01 | 1.10E+02 | 1.83E+02 | pCi/L | | 10 | ml | | 08/16/06 | 60 | M | U |

Flag Values

U = Compound/Analyte not detected or less than 3 sigma
 + = Activity concentration exceeds MDC and 3 sigma; peak identified(gamma only)
 U* = Compound/Analyte not detected. Peak not identified, but forced activity concentration exceeds MDC and 3 sigma
 High = Activity concentration exceeds customer reporting value
 Spec = MDC exceeds customer technical specification
 L = Low recovery
 H = High recovery

No = Peak not identified in gamma spectrum
 Yes = Peak identified in gamma spectrum
 **** Results are reported on an as received basis unless otherwise noted

MDC - Minimum Detectable Concentration

Bolded text indicates reportable value.

QC Results Summary

QC Summary Report for L29586

8/28/2006 4:17:27PM



H-3 (DIST)

Method Blank Summary

| <u>TBE Sample ID</u> | <u>Radionuclide</u> | <u>Matrix</u> | <u>Count Date/Time</u> | <u>Blank Result</u> | <u>Units</u> | <u>Qualifier</u> | <u>P/F</u> |
|----------------------|---------------------|---------------|------------------------|---------------------|--------------|------------------|------------|
| WG4320-1 | H-3 (DIST) | WO | 08/15/2006 14:44 | < 1.880E+00 | pCi/Total | U | P |

LCS Sample Summary

| <u>TBE Sample ID</u> | <u>Radionuclide</u> | <u>Matrix</u> | <u>Count Date/Time</u> | <u>Spike Value</u> | <u>LCS Result</u> | <u>Units</u> | <u>Spike Recovery</u> | <u>Range</u> | <u>Qualifier</u> | <u>P/F</u> |
|----------------------|---------------------|---------------|------------------------|--------------------|-------------------|--------------|-----------------------|--------------|------------------|------------|
| WG4320-2 | H-3 (DIST) | WO | 08/15/2006 15:48 | 5.05E+002 | 5.230E+02 | pCi/Total | 103.6 | 70-130 | + | P |

Spike ID: 3H-041706-1
Spike conc: 5.05E+002
Spike Vol: 1.00E+000

Duplicate Summary

| <u>TBE Sample ID</u> | <u>Radionuclide</u> | <u>Matrix</u> | <u>Count Date/Time</u> | <u>Original Result</u> | <u>DUP Result</u> | <u>Units</u> | <u>RPD</u> | <u>Range</u> | <u>Qualifier</u> | <u>P/F</u> |
|----------------------|---------------------|---------------|------------------------|------------------------|-------------------|--------------|------------|--------------|------------------|------------|
| WG4320-3 L29576-1 | H-3 (DIST) | WG | 08/15/2006 16:06 | < 1.830E+02 | < 1.860E+02 | pCi/L | | <30 | ** | NE |

+ Positive Result
U Compound/analyte was analyzed, peak not identified and/or not detected above MDC
* < 5 times the MDC are not evaluated
** Nuclide not detected
*** Spiking level < 5 times activity
P Pass
F Fail
NE Not evaluated

QC Summary Report for L29586

8/28/2006 4:17:27PM



TOTAL SR

Method Blank Summary

| <u>TBE Sample ID</u> | <u>Radionuclide</u> | <u>Matrix</u> | <u>Count Date/Time</u> | <u>Blank Result</u> | <u>Units</u> | <u>Qualifier</u> | <u>P/F</u> |
|----------------------|---------------------|---------------|------------------------|---------------------|--------------|------------------|------------|
| WG4326-1 | TOTAL SR | WO | 08/16/2006 17:42 | < 7.620E-01 | pCi/Total | U | P |

LCS Sample Summary

| <u>TBE Sample ID</u> | <u>Radionuclide</u> | <u>Matrix</u> | <u>Count Date/Time</u> | <u>Spike Value</u> | <u>LCS Result</u> | <u>Units</u> | <u>Spike Recovery</u> | <u>Range</u> | <u>Qualifier</u> | <u>P/F</u> |
|----------------------|---------------------|---------------|------------------------|--------------------|-------------------|--------------|-----------------------|--------------|------------------|------------|
| WG4326-2 | TOTAL SR | WO | 08/16/2006 17:42 | 5.84E+001 | 5.700E+01 | pCi/Total | 97.6 | 70-130 | + | P |

Spike ID: 90SR-011905
Spike conc: 2.34E+002
Spike Vol: 2.50E-001

Duplicate Summary

| <u>TBE Sample ID</u> | <u>Radionuclide</u> | <u>Matrix</u> | <u>Count Date/Time</u> | <u>Original Result</u> | <u>DUP Result</u> | <u>Units</u> | <u>RPD</u> | <u>Range</u> | <u>Qualifier</u> | <u>P/F</u> |
|----------------------|---------------------|---------------|------------------------|------------------------|-------------------|--------------|------------|--------------|------------------|------------|
| WG4326-3 L29586-1 | TOTAL SR | WG | 08/16/2006 17:42 | 3.210E+00 | 3.200E+00 | pCi/L | | <30 | * | NE |

+ Positive Result
U Compound/analyte was analyzed, peak not identified and/or not detected above MDC
* < 5 times the MDC are not evaluated
** Nuclide not detected
*** Spiking level < 5 times activity
P Pass
F Fail
NE Not evaluated

Raw Data

Customer: Exelon

Project : EX001-3ESPDRES-06

| Nuclide: <u>SR-90 (FAST)</u> | | | | Project : <u>EX001-3ESFDRBS-08</u> | | | | | | | | | | | | |
|---|--------------|-----------|--------------------|------------------------------------|-----------|--------|----------|-----------|---------|--------|---------|--------|---------|-----------|---------|-----|
| Sample ID | Run Analysis | Reference | Volume/ Aliquot | Scavenge | Milking | Mount | Recovery | Count | Counter | Total | Sample | Bkg | Eff. | Ingrrowth | Analyst | |
| Client ID | # | Date/time | | Date/time | Date/time | Weight | | Date/time | ID | counts | dt(min) | counts | dt(min) | Factor | | |
| L29586-1 | TOTAL SR | 14-aug-06 | 450 ml | 16-aug-06 | 14:30 | 0 | 72.25 | 16-aug-06 | X2A | 148 | 100 | 264 | 400 | .354 | 1 | LCB |
| | | 09:45 | | | | | | 17:42 | | | | | | | | |
| WG-DN-MW-DN-108I-081406-GL-022 | | | | | | | | | | | | | | | | |
| Activity: 3.21E+00 * Error: 1E+00 MDC: 1.48E+00 | | | | | | | | | | | | | | | | |
| L29586-2 | TOTAL SR | 14-aug-06 | 450 ml | 16-aug-06 | 14:30 | 0 | 72.25 | 16-aug-06 | X2B | 140 | 100 | 289 | 400 | .345 | 1 | LCB |
| | | 10:10 | | | | | | 17:42 | | | | | | | | |
| WG-DN-MW-DN-108I-081406-GL-023 | | | | | | | | | | | | | | | | |
| Activity: 2.72E+00 * Error: 1.01E+00 MDC: 1.59E+00 | | | | | | | | | | | | | | | | |
| L29586-3 | TOTAL SR | 14-aug-06 | 450 ml | 16-aug-06 | 14:30 | 0 | 60.16 | 16-aug-06 | X2C | 72 | 100 | 277 | 400 | .344 | 1 | LCB |
| | | 11:10 | | | | | | 17:42 | | | | | | | | |
| WG-DN-MW-DN-115S-081406-GL-024 | | | | | | | | | | | | | | | | |
| Activity: 1.33E-01 Error: 9.14E-01 MDC: 1.88E+00 * | | | | | | | | | | | | | | | | |
| L29586-4 | TOTAL SR | 14-aug-06 | 450 ml | 16-aug-06 | 14:30 | 0 | 87.36 | 16-aug-06 | X2D | 69 | 100 | 307 | 400 | .343 | 1 | LCB |
| | | 12:55 | | | | | | 17:42 | | | | | | | | |
| WG-DN-MW-DN-114I-081406-GL-025 | | | | | | | | | | | | | | | | |
| Activity: -2.59E-01 Error: 6.27E-01 MDC: 1.36E+00 * | | | | | | | | | | | | | | | | |

Sec. Review: Analyst: LIMS: ✓

=====

VAX/VMS Teledyne Brown Eng. Laboratory Gamma Report: 17-AUG-2006 13:40:02.68
TBE23 03017322 HpGe ***** Aquisition Date/Time: 17-AUG-2006 11:45:59.16

LIMS No., Customer Name, Client ID: WG WG4324-1 DRES

| | | | |
|---------------|-----------------|---------------|-----------------------|
| Sample ID | : 23WG4324-1 | Smple Date: | 14-AUG-2006 12:55:00. |
| Sample Type | : WG | Geometry | : 233L082404 |
| Quantity | : 2.95550E+00 L | BKGFILE | : 23BG072806MT |
| Start Channel | : 50 | Energy Tol | : 1.00000 |
| End Channel | : 4090 | Pk Srch Sens: | 5.00000 |
| MDA Constant | : 0.00 | Library Used: | LIBD |
| | | Real Time | : 0 01:53:55.48 |
| | | Live time | : 0 01:53:50.79 |

| Pk | It | Energy | Area | Bkgnd | FWHM | Channel | %Eff | Cts/Sec | %Err | Fit |
|----|----|----------|------|-------|------|---------|----------|----------|-------|-----|
| 1 | 0 | 63.72* | 6 | 316 | 1.10 | 127.67 | 1.06E+00 | 8.69E-04 | 536.3 | |
| 2 | 0 | 77.91* | 65 | 451 | 1.05 | 156.00 | 1.56E+00 | 9.58E-03 | 65.2 | |
| 3 | 0 | 92.39* | 61 | 328 | 0.85 | 184.94 | 1.93E+00 | 8.92E-03 | 58.4 | |
| 4 | 0 | 186.24* | 54 | 242 | 1.45 | 372.44 | 2.17E+00 | 7.95E-03 | 58.3 | |
| 5 | 0 | 243.01 | 75 | 278 | 0.76 | 485.88 | 1.88E+00 | 1.09E-02 | 46.2 | |
| 6 | 0 | 295.08* | 161 | 107 | 1.10 | 589.93 | 1.64E+00 | 2.35E-02 | 13.9 | |
| 7 | 0 | 351.86* | 282 | 100 | 1.20 | 703.41 | 1.43E+00 | 4.12E-02 | 9.2 | |
| 8 | 0 | 595.45 | 41 | 32 | 3.87 | 1190.42 | 9.56E-01 | 5.93E-03 | 33.0 | |
| 9 | 0 | 609.22* | 256 | 73 | 1.18 | 1217.95 | 9.40E-01 | 3.75E-02 | 9.5 | |
| 10 | 0 | 1120.44* | 50 | 24 | 1.75 | 2240.86 | 6.16E-01 | 7.28E-03 | 25.2 | |
| 11 | 0 | 1460.41* | 30 | 12 | 1.82 | 2921.73 | 5.10E-01 | 4.37E-03 | 42.4 | |
| 12 | 0 | 1764.13* | 51 | 3 | 1.32 | 3530.40 | 4.38E-01 | 7.43E-03 | 17.3 | |

Flag: "*" = Peak area was modified by background subtraction

Nuclide Line Activity Report

Nuclide Type: natural

| Nuclide | Energy | Area | %Abn | %Eff | Uncorrected pCi/L | Decay Corr pCi/L | 2-Sigma %Error |
|---------|---------|------|--------|-----------|----------------------|---------------------|-------------------|
| K-40 | 1460.81 | 30 | 10.67* | 5.097E-01 | 7.348E+01 | 7.348E+01 | 84.81 |
| RA-226 | 186.21 | 54 | 3.28* | 2.172E+00 | 1.021E+02 | 1.021E+02 | 116.51 |

Flag: "*" = Keyline

Summary of Nuclide Activity

Page : 2

Sample ID : 23WG4324-1

Acquisition date : 17-AUG-2006 11:45:59

| | | |
|---|----|--------|
| Total number of lines in spectrum | 12 | |
| Number of unidentified lines | 10 | |
| Number of lines tentatively identified by NID | 2 | 16.67% |

Nuclide Type : natural

| Nuclide | Hlife | Decay | Uncorrected pCi/L | Decay Corr pCi/L | Decay Corr 2-Sigma Error | 2-Sigma %Error | Flags |
|------------------|-----------|-------|----------------------|---------------------|-----------------------------|-------------------|-------|
| K-40 | 1.28E+09Y | 1.00 | 7.348E+01 | 7.348E+01 | 6.232E+01 | 84.81 | |
| RA-226 | 1600.00Y | 1.00 | 1.021E+02 | 1.021E+02 | 1.189E+02 | 116.51 | |
| | | | ----- | ----- | | | |
| Total Activity : | | | 1.756E+02 | 1.756E+02 | | | |

| | | |
|------------------------|-----------|-----------|
| Grand Total Activity : | 1.756E+02 | 1.756E+02 |
|------------------------|-----------|-----------|

Flags: "K" = Keyline not found
"E" = Manually edited

"M" = Manually accepted
"A" = Nuclide specific abn. limit

| It | Energy | Area | Bkgnd | FWHM | Channel | Left | Pw | Cts/Sec | %Err | %Eff | Flags |
|----|---------|------|-------|------|---------|------|----|----------|------|----------|-------|
| 0 | 63.72 | 6 | 316 | 1.10 | 127.67 | 123 | 8 | 8.69E-04 | **** | 1.06E+00 | |
| 0 | 77.91 | 65 | 451 | 1.05 | 156.00 | 151 | 11 | 9.58E-03 | **** | 1.56E+00 | |
| 0 | 92.39 | 61 | 328 | 0.85 | 184.94 | 181 | 9 | 8.92E-03 | **** | 1.93E+00 | |
| 0 | 243.01 | 75 | 278 | 0.76 | 485.88 | 480 | 12 | 1.09E-02 | 92.3 | 1.88E+00 | |
| 0 | 295.08 | 161 | 107 | 1.10 | 589.93 | 586 | 8 | 2.35E-02 | 27.8 | 1.64E+00 | |
| 0 | 351.86 | 282 | 100 | 1.20 | 703.41 | 698 | 10 | 4.12E-02 | 18.4 | 1.43E+00 | |
| 0 | 595.45 | 41 | 32 | 3.87 | 1190.42 | 1183 | 13 | 5.93E-03 | 66.0 | 9.56E-01 | |
| 0 | 609.22 | 256 | 73 | 1.18 | 1217.95 | 1212 | 13 | 3.75E-02 | 19.1 | 9.40E-01 | |
| 0 | 1120.44 | 50 | 24 | 1.75 | 2240.86 | 2235 | 11 | 7.28E-03 | 50.3 | 6.16E-01 | |
| 0 | 1764.13 | 51 | 3 | 1.32 | 3530.40 | 3524 | 13 | 7.43E-03 | 34.5 | 4.38E-01 | |

Flags: "T" = Tentatively associated

Summary of Nuclide Activity

| | |
|---|---------------|
| Total number of lines in spectrum | 12 |
| Number of unidentified lines | 10 |
| Number of lines tentatively identified by NID | 2 16.67% |

Nuclide Type : natural

| Nuclide | Hlife | Decay | Wtd Mean Uncorrected pCi/L | Wtd Mean Decay Corr pCi/L | Decay Corr 2-Sigma Error | 2-Sigma %Error | Flags |
|------------------|-----------|-------|----------------------------------|---------------------------------|-----------------------------|-------------------|-------|
| K-40 | 1.28E+09Y | 1.00 | 7.348E+01 | 7.348E+01 | 6.232E+01 | 84.81 | |
| RA-226 | 1600.00Y | 1.00 | 1.021E+02 | 1.021E+02 | 1.189E+02 | 116.51 | |
| Total Activity : | | | 1.756E+02 | 1.756E+02 | | | |

Grand Total Activity : 1.756E+02 1.756E+02

Flags: "K" = Keyline not found "M" = Manually accepted
 "E" = Manually edited "A" = Nuclide specific abn. limit

Interference Report

No interference correction performed

Combined Activity-MDA Report

---- Identified Nuclides ----

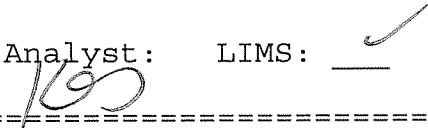
| Nuclide | Activity (pCi/L) | Act error | MDA (pCi/L) | MDA error | Act/MDA |
|---------|---------------------|-----------|----------------|-----------|---------|
| K-40 | 7.348E+01 | 6.232E+01 | 5.568E+01 | 0.000E+00 | 1.320 |
| RA-226 | 1.021E+02 | 1.189E+02 | 1.465E+02 | 0.000E+00 | 0.697 |

---- Non-Identified Nuclides ----

| Nuclide | Key-Line Activity (pCi/L) | K.L. Ided | Act error | MDA (pCi/L) | MDA error | Act/MDA |
|---------|---------------------------------|--------------|-----------|----------------|-----------|---------|
|---------|---------------------------------|--------------|-----------|----------------|-----------|---------|

| | | | | | |
|---------|------------|-----------|-----------|-----------|--------|
| BE-7 | -2.163E+01 | 2.362E+01 | 3.909E+01 | 0.000E+00 | -0.553 |
| NA-24 | 5.462E+00 | 8.338E+01 | 1.586E+02 | 0.000E+00 | 0.034 |
| CR-51 | -1.314E+01 | 2.999E+01 | 4.915E+01 | 0.000E+00 | -0.267 |
| MN-54 | -3.197E-01 | 2.954E+00 | 5.231E+00 | 0.000E+00 | -0.061 |
| CO-57 | -5.051E-01 | 3.307E+00 | 5.611E+00 | 0.000E+00 | -0.090 |
| CO-58 | -8.411E-01 | 3.129E+00 | 5.427E+00 | 0.000E+00 | -0.155 |
| FE-59 | -3.819E-01 | 6.337E+00 | 1.117E+01 | 0.000E+00 | -0.034 |
| CO-60 | 2.600E+00 | 2.974E+00 | 6.253E+00 | 0.000E+00 | 0.416 |
| ZN-65 | -3.020E+00 | 8.012E+00 | 1.138E+01 | 0.000E+00 | -0.265 |
| SE-75 | -2.900E+00 | 4.539E+00 | 7.382E+00 | 0.000E+00 | -0.393 |
| SR-85 | -2.373E+00 | 3.921E+00 | 6.626E+00 | 0.000E+00 | -0.358 |
| Y-88 | 2.686E-01 | 3.431E+00 | 6.567E+00 | 0.000E+00 | 0.041 |
| NB-94 | -1.098E+00 | 2.850E+00 | 4.903E+00 | 0.000E+00 | -0.224 |
| NB-95 | 5.211E-02 | 3.492E+00 | 6.191E+00 | 0.000E+00 | 0.008 |
| ZR-95 | -7.854E-02 | 5.257E+00 | 9.429E+00 | 0.000E+00 | -0.008 |
| MO-99 | -1.715E+01 | 5.083E+01 | 8.754E+01 | 0.000E+00 | -0.196 |
| RU-103 | -1.693E-01 | 3.021E+00 | 5.402E+00 | 0.000E+00 | -0.031 |
| RU-106 | -1.520E+01 | 2.704E+01 | 4.587E+01 | 0.000E+00 | -0.331 |
| AG-110m | -3.567E-01 | 3.021E+00 | 5.348E+00 | 0.000E+00 | -0.067 |
| SN-113 | 1.242E+00 | 4.100E+00 | 7.474E+00 | 0.000E+00 | 0.166 |
| SB-124 | 1.516E-01 | 3.669E+00 | 5.401E+00 | 0.000E+00 | 0.028 |
| SB-125 | -1.080E+00 | 8.975E+00 | 1.592E+01 | 0.000E+00 | -0.068 |
| TE-129M | 7.561E-03 | 3.693E+01 | 6.605E+01 | 0.000E+00 | 0.000 |
| I-131 | -3.427E+00 | 4.322E+00 | 6.857E+00 | 0.000E+00 | -0.500 |
| BA-133 | -2.588E-01 | 5.291E+00 | 7.747E+00 | 0.000E+00 | -0.033 |
| CS-134 | 1.075E+00 | 3.280E+00 | 5.316E+00 | 0.000E+00 | 0.202 |
| CS-136 | 6.576E-01 | 3.247E+00 | 5.991E+00 | 0.000E+00 | 0.110 |
| CS-137 | -6.371E-01 | 3.644E+00 | 6.379E+00 | 0.000E+00 | -0.100 |
| CE-139 | -8.301E-01 | 3.461E+00 | 5.810E+00 | 0.000E+00 | -0.143 |
| BA-140 | -2.103E+00 | 1.283E+01 | 2.266E+01 | 0.000E+00 | -0.093 |
| LA-140 | 1.028E+00 | 4.079E+00 | 7.934E+00 | 0.000E+00 | 0.130 |
| CE-141 | 1.403E+00 | 6.090E+00 | 1.045E+01 | 0.000E+00 | 0.134 |
| CE-144 | 1.444E+01 | 2.663E+01 | 4.626E+01 | 0.000E+00 | 0.312 |
| EU-152 | -3.533E+00 | 1.083E+01 | 1.785E+01 | 0.000E+00 | -0.198 |
| EU-154 | -3.903E+00 | 7.046E+00 | 1.176E+01 | 0.000E+00 | -0.332 |
| AC-228 | 3.429E-01 | 1.179E+01 | 2.201E+01 | 0.000E+00 | 0.016 |
| TH-228 | 4.119E+00 | 7.400E+00 | 1.164E+01 | 0.000E+00 | 0.354 |
| TH-232 | 3.425E-01 | 1.178E+01 | 2.199E+01 | 0.000E+00 | 0.016 |
| U-235 | -1.497E+01 | 2.733E+01 | 4.533E+01 | 0.000E+00 | -0.330 |
| U-238 | -5.434E+00 | 3.464E+02 | 6.378E+02 | 0.000E+00 | -0.009 |
| AM-241 | 4.838E+00 | 2.124E+01 | 3.289E+01 | 0.000E+00 | 0.147 |

| | | | |
|--------------|-------|-------------------------------------|-------------------------------|
| A,23WG4324-1 | | ,08/17/2006 13:40,08/14/2006 12:55, | 2.955E+00,WG WG4324-1 DR |
| B,23WG4324-1 | | ,LIBD | ,08/14/2006 10:01,233L082404 |
| C,K-40 | ,YES, | 7.348E+01, | 6.232E+01, 5.568E+01,, 1.320 |
| C,RA-226 | ,YES, | 1.021E+02, | 1.189E+02, 1.465E+02,, 0.697 |
| C,BE-7 | ,NO , | -2.163E+01, | 2.362E+01, 3.909E+01,, -0.553 |
| C,NA-24 | ,NO , | 5.462E+00, | 8.338E+01, 1.586E+02,, 0.034 |
| C,CR-51 | ,NO , | -1.314E+01, | 2.999E+01, 4.915E+01,, -0.267 |
| C,MN-54 | ,NO , | -3.197E-01, | 2.954E+00, 5.231E+00,, -0.061 |
| C,CO-57 | ,NO , | -5.051E-01, | 3.307E+00, 5.611E+00,, -0.090 |
| C,CO-58 | ,NO , | -8.411E-01, | 3.129E+00, 5.427E+00,, -0.155 |
| C,FE-59 | ,NO , | -3.819E-01, | 6.337E+00, 1.117E+01,, -0.034 |
| C,CO-60 | ,NO , | 2.600E+00, | 2.974E+00, 6.253E+00,, 0.416 |
| C,ZN-65 | ,NO , | -3.020E+00, | 8.012E+00, 1.138E+01,, -0.265 |
| C,SE-75 | ,NO , | -2.900E+00, | 4.539E+00, 7.382E+00,, -0.393 |
| C,SR-85 | ,NO , | -2.373E+00, | 3.921E+00, 6.626E+00,, -0.358 |
| C,Y-88 | ,NO , | 2.686E-01, | 3.431E+00, 6.567E+00,, 0.041 |
| C,NB-94 | ,NO , | -1.098E+00, | 2.850E+00, 4.903E+00,, -0.224 |
| C,NB-95 | ,NO , | 5.211E-02, | 3.492E+00, 6.191E+00,, 0.008 |
| C,ZR-95 | ,NO , | -7.854E-02, | 5.257E+00, 9.429E+00,, -0.008 |
| C,MO-99 | ,NO , | -1.715E+01, | 5.083E+01, 8.754E+01,, -0.196 |
| C,RU-103 | ,NO , | -1.693E-01, | 3.021E+00, 5.402E+00,, -0.031 |
| C,RU-106 | ,NO , | -1.520E+01, | 2.704E+01, 4.587E+01,, -0.331 |
| C,AG-110m | ,NO , | -3.567E-01, | 3.021E+00, 5.348E+00,, -0.067 |
| C,SN-113 | ,NO , | 1.242E+00, | 4.100E+00, 7.474E+00,, 0.166 |
| C,SB-124 | ,NO , | 1.516E-01, | 3.669E+00, 5.401E+00,, 0.028 |
| C,SB-125 | ,NO , | -1.080E+00, | 8.975E+00, 1.592E+01,, -0.068 |
| C,TE-129M | ,NO , | 7.561E-03, | 3.693E+01, 6.605E+01,, 0.000 |
| C,I-131 | ,NO , | -3.427E+00, | 4.322E+00, 6.857E+00,, -0.500 |
| C,BA-133 | ,NO , | -2.588E-01, | 5.291E+00, 7.747E+00,, -0.033 |
| C,CS-134 | ,NO , | 1.075E+00, | 3.280E+00, 5.316E+00,, 0.202 |
| C,CS-136 | ,NO , | 6.576E-01, | 3.247E+00, 5.991E+00,, 0.110 |
| C,CS-137 | ,NO , | -6.371E-01, | 3.644E+00, 6.379E+00,, -0.100 |
| C,CE-139 | ,NO , | -8.301E-01, | 3.461E+00, 5.810E+00,, -0.143 |
| C,BA-140 | ,NO , | -2.103E+00, | 1.283E+01, 2.266E+01,, -0.093 |
| C,LA-140 | ,NO , | 1.028E+00, | 4.079E+00, 7.934E+00,, 0.130 |
| C,CE-141 | ,NO , | 1.403E+00, | 6.090E+00, 1.045E+01,, 0.134 |
| C,CE-144 | ,NO , | 1.444E+01, | 2.663E+01, 4.626E+01,, 0.312 |
| C,EU-152 | ,NO , | -3.533E+00, | 1.083E+01, 1.785E+01,, -0.198 |
| C,EU-154 | ,NO , | -3.903E+00, | 7.046E+00, 1.176E+01,, -0.332 |
| C,AC-228 | ,NO , | 3.429E-01, | 1.179E+01, 2.201E+01,, 0.016 |
| C,TH-228 | ,NO , | 4.119E+00, | 7.400E+00, 1.164E+01,, 0.354 |
| C,TH-232 | ,NO , | 3.425E-01, | 1.178E+01, 2.199E+01,, 0.016 |
| C,U-235 | ,NO , | -1.497E+01, | 2.733E+01, 4.533E+01,, -0.330 |
| C,U-238 | ,NO , | -5.434E+00, | 3.464E+02, 6.378E+02,, -0.009 |
| C,AM-241 | ,NO , | 4.838E+00, | 2.124E+01, 3.289E+01,, 0.147 |

Sec. Review: Analyst: LIMS: 

VAX/VMS Teledyne Brown Eng. Laboratory Gamma Report: 17-AUG-2006 09:02:50.77
TBE04 P-40312B HpGe ***** Aquisition Date/Time: 16-AUG-2006 15:33:57.87

LIMS No., Customer Name, Client ID: L29586-1 WG EX/DRES

Sample ID : 04L29586-1 Smple Date: 14-AUG-2006 09:45:00.
Sample Type : WG Geometry : 041L082004
Quantity : 1.00510E+00 L BKGFILE : 04BG072806MT
Start Channel : 90 Energy Tol : 1.00000 Real Time : 0 17:28:50.83
End Channel : 4090 Pk Srch Sens: 5.00000 Live time : 0 17:28:40.39
MDA Constant : 0.00 Library Used: LIBD

| Pk | It | Energy | Area | Bkgnd | FWHM | Channel | %Eff | Cts/Sec | %Err | Fit |
|----|----|----------|------|-------|------|---------|----------|----------|-------|----------|
| 1 | 6 | 63.48* | 250 | 1524 | 1.61 | 127.93 | 1.00E+00 | 3.97E-03 | 32.6 | 3.77E+00 |
| 2 | 6 | 66.18* | 254 | 1306 | 1.30 | 133.34 | 1.16E+00 | 4.03E-03 | 28.4 | |
| 3 | 4 | 74.82* | 156 | 999 | 1.05 | 150.62 | 1.69E+00 | 2.48E-03 | 43.9 | 3.52E+00 |
| 4 | 4 | 76.94* | 157 | 997 | 1.01 | 154.86 | 1.81E+00 | 2.49E-03 | 41.6 | |
| 5 | 4 | 87.24* | 36 | 919 | 0.93 | 175.45 | 2.33E+00 | 5.73E-04 | 161.1 | 6.70E-01 |
| 6 | 1 | 139.60* | 278 | 1163 | 1.37 | 280.17 | 3.29E+00 | 4.42E-03 | 24.7 | 7.67E+00 |
| 7 | 1 | 185.87* | 17 | 1518 | 1.21 | 372.72 | 3.06E+00 | 2.71E-04 | 498.7 | 6.86E-01 |
| 8 | 1 | 198.32* | 149 | 1216 | 1.25 | 397.62 | 2.97E+00 | 2.36E-03 | 47.1 | 8.08E-01 |
| 9 | 1 | 238.57* | 138 | 751 | 1.14 | 478.13 | 2.66E+00 | 2.20E-03 | 42.8 | 2.56E+00 |
| 10 | 1 | 241.91 | 320 | 818 | 1.29 | 484.79 | 2.63E+00 | 5.08E-03 | 16.8 | |
| 11 | 1 | 295.21* | 443 | 926 | 1.00 | 591.40 | 2.29E+00 | 7.04E-03 | 15.1 | 4.81E-01 |
| 12 | 1 | 338.40* | 40 | 623 | 2.46 | 677.78 | 2.06E+00 | 6.30E-04 | 142.8 | 7.86E-01 |
| 13 | 1 | 351.94* | 826 | 790 | 1.16 | 704.85 | 2.00E+00 | 1.31E-02 | 8.4 | 2.03E+00 |
| 14 | 1 | 596.08 | 221 | 483 | 3.82 | 1193.10 | 1.31E+00 | 3.52E-03 | 23.3 | 1.63E+00 |
| 15 | 1 | 609.27* | 605 | 426 | 1.31 | 1219.48 | 1.28E+00 | 9.61E-03 | 9.4 | 8.62E-01 |
| 16 | 1 | 769.12 | 398 | 280 | 0.66 | 1539.15 | 1.05E+00 | 6.32E-03 | 8.3 | 4.08E+02 |
| 17 | 1 | 968.97* | 26 | 162 | 1.80 | 1938.79 | 8.62E-01 | 4.05E-04 | 119.5 | 1.89E+00 |
| 18 | 1 | 1119.98* | 158 | 177 | 1.86 | 2240.75 | 7.60E-01 | 2.51E-03 | 21.7 | 8.07E-01 |
| 19 | 1 | 1237.77* | 139 | 111 | 3.45 | 2476.28 | 6.97E-01 | 2.21E-03 | 20.4 | 1.24E+00 |
| 20 | 1 | 1728.50 | 45 | 67 | 2.56 | 3457.45 | 5.40E-01 | 7.15E-04 | 35.3 | 5.02E+00 |
| 21 | 1 | 1763.95* | 77 | 154 | 2.44 | 3528.33 | 5.33E-01 | 1.23E-03 | 47.2 | 2.45E+00 |

Flag: "*" = Peak area was modified by background subtraction

Nuclide Line Activity Report

Nuclide Type: natural

| Nuclide | Energy | Area | %Abn | %Eff | Uncorrected pCi/L | Decay Corr pCi/L | 2-Sigma %Error |
|---------|--------|-------|--------|-----------|-------------------|------------------|----------------|
| RA-226 | 186.21 | 17 | 3.28* | 3.062E+00 | 7.253E+00 | 7.253E+00 | 997.38 |
| TH-228 | 238.63 | 138 | 44.60* | 2.659E+00 | 4.979E+00 | 4.992E+00 | 85.57 |
| | 240.98 | 320 | 3.95 | 2.634E+00 | 1.313E+02 | 1.316E+02 | 33.59 |
| U-235 | 143.76 | ----- | 10.50* | 3.283E+00 | ----- | Line Not Found | ----- |
| | 163.35 | ----- | 4.70 | 3.212E+00 | ----- | Line Not Found | ----- |
| | 185.71 | 17 | 54.00 | 3.062E+00 | 4.405E-01 | 4.405E-01 | 997.38 |
| | 205.31 | ----- | 4.70 | 2.912E+00 | ----- | Line Not Found | ----- |

Flag: "*" = Keyline

Summary of Nuclide Activity

Page : 2

Sample ID : 04L29586-1

Acquisition date : 16-AUG-2006 15:33:57

| | |
|---|--------|
| Total number of lines in spectrum | 21 |
| Number of unidentified lines | 17 |
| Number of lines tentatively identified by NID | 4 |
| | 19.05% |

Nuclide Type : natural

| Nuclide | Hlife | Decay | Uncorrected pCi/L | Decay Corr pCi/L | Decay Corr 2-Sigma Error | 2-Sigma %Error | Flags |
|---------|-----------|------------------|----------------------|---------------------|-----------------------------|-------------------|-------|
| RA-226 | 1600.00Y | 1.00 | 7.253E+00 | 7.253E+00 | 72.34E+00 | 997.38 | |
| TH-228 | 1.91Y | 1.00 | 4.979E+00 | 4.992E+00 | 4.272E+00 | 85.57 | |
| U-235 | 7.04E+08Y | 1.00 | 4.405E-01 | 4.405E-01 | 43.94E-01 | 997.38 | K |
| | | | ----- | ----- | | | |
| | | Total Activity : | 1.267E+01 | 1.269E+01 | | | |

Grand Total Activity : 1.267E+01 1.269E+01

Flags: "K" = Keyline not found
"E" = Manually edited

"M" = Manually accepted
"A" = Nuclide specific abn. limit

Unidentified Energy Lines

Page : 3

Sample ID : 04L29586-1

Acquisition date : 16-AUG-2006 15:33:57

| It | Energy | Area | Bkgnd | FWHM | Channel | Left | Pw | Cts/Sec | %Err | %Eff | Flags |
|----|---------|------|-------|------|---------|------|----|----------|------|----------|-------|
| 6 | 63.48 | 250 | 1524 | 1.61 | 127.93 | 123 | 15 | 3.97E-03 | 65.1 | 1.00E+00 | |
| 6 | 66.18 | 254 | 1306 | 1.30 | 133.34 | 123 | 15 | 4.03E-03 | 56.7 | 1.16E+00 | |
| 4 | 74.82 | 156 | 999 | 1.05 | 150.62 | 142 | 17 | 2.48E-03 | 87.8 | 1.69E+00 | |
| 4 | 76.94 | 157 | 997 | 1.01 | 154.86 | 142 | 17 | 2.49E-03 | 83.1 | 1.81E+00 | |
| 4 | 87.24 | 36 | 919 | 0.93 | 175.45 | 164 | 15 | 5.73E-04 | **** | 2.33E+00 | |
| 1 | 139.60 | 278 | 1163 | 1.37 | 280.17 | 277 | 8 | 4.42E-03 | 49.4 | 3.29E+00 | |
| 1 | 198.32 | 149 | 1216 | 1.25 | 397.62 | 393 | 9 | 2.36E-03 | 94.2 | 2.97E+00 | |
| 1 | 295.21 | 443 | 926 | 1.00 | 591.40 | 587 | 10 | 7.04E-03 | 30.2 | 2.29E+00 | |
| 1 | 338.40 | 40 | 623 | 2.46 | 677.78 | 673 | 10 | 6.30E-04 | **** | 2.06E+00 | |
| 1 | 351.94 | 826 | 790 | 1.16 | 704.85 | 699 | 12 | 1.31E-02 | 16.9 | 2.00E+00 | |
| 1 | 596.08 | 221 | 483 | 3.82 | 1193.10 | 1186 | 16 | 3.52E-03 | 46.5 | 1.31E+00 | |
| 1 | 609.27 | 605 | 426 | 1.31 | 1219.48 | 1213 | 12 | 9.61E-03 | 18.8 | 1.28E+00 | |
| 1 | 769.12 | 398 | 280 | 0.66 | 1539.15 | 1532 | 11 | 6.32E-03 | 16.5 | 1.05E+00 | |
| 1 | 968.97 | 26 | 162 | 1.80 | 1938.79 | 1933 | 10 | 4.05E-04 | **** | 8.62E-01 | T |
| 1 | 1119.98 | 158 | 177 | 1.86 | 2240.75 | 2235 | 13 | 2.51E-03 | 43.3 | 7.60E-01 | |
| 1 | 1237.77 | 139 | 111 | 3.45 | 2476.28 | 2470 | 15 | 2.21E-03 | 40.8 | 6.97E-01 | |
| 1 | 1728.50 | 45 | 67 | 2.56 | 3457.45 | 3453 | 10 | 7.15E-04 | 70.6 | 5.40E-01 | |
| 1 | 1763.95 | 77 | 154 | 2.44 | 3528.33 | 3520 | 22 | 1.23E-03 | 94.5 | 5.33E-01 | |

Flags: "T" = Tentatively associated

Summary of Nuclide Activity

| | |
|---|----------|
| Total number of lines in spectrum | 21 |
| Number of unidentified lines | 17 |
| Number of lines tentatively identified by NID | 4 19.05% |

Nuclide Type : natural

| Nuclide | Hlife | Decay | Wtd Mean Uncorrected pCi/L | Wtd Mean Decay Corr pCi/L | Decay Corr 2-Sigma Error | 2-Sigma %Error | Flags |
|------------------|----------|-------|----------------------------------|---------------------------------|-----------------------------|-------------------|-------|
| RA-226 | 1600.00Y | 1.00 | 7.253E+00 | 7.253E+00 | 72.34E+00 | 997.38 | |
| TH-228 | 1.91Y | 1.00 | 4.979E+00 | 4.992E+00 | 4.272E+00 | 85.57 | |
| Total Activity : | | | 1.223E+01 | 1.224E+01 | | | |

Grand Total Activity : 1.223E+01 1.224E+01

Flags: "K" = Keyline not found

"M" = Manually accepted

"E" = Manually edited

"A" = Nuclide specific abn. limit

Interference Report

No interference correction performed

Combined Activity-MDA Report

---- Identified Nuclides ----

| Nuclide | Activity (pCi/L) | Act error | MDA (pCi/L) | MDA error | Act/MDA |
|---------|---------------------|-----------|----------------|-----------|---------|
|---------|---------------------|-----------|----------------|-----------|---------|

| | | | | | |
|--------|-----------|-----------|-----------|-----------|-------|
| RA-226 | 7.253E+00 | 7.234E+01 | 6.055E+01 | 0.000E+00 | 0.120 |
| TH-228 | 4.992E+00 | 4.272E+00 | 4.742E+00 | 0.000E+00 | 1.053 |

---- Non-Identified Nuclides ----

| Nuclide | Key-Line Activity (pCi/L) | K.L. Ided | Act error | MDA (pCi/L) | MDA error | Act/MDA |
|---------|---------------------------------|--------------|-----------|----------------|-----------|---------|
| BE-7 | 6.234E+00 | | 1.588E+01 | 2.621E+01 | 0.000E+00 | 0.238 |
| NA-24 | -5.205E+00 | | 3.227E+01 | 5.309E+01 | 0.000E+00 | -0.098 |
| K-40 | 5.582E+00 | | 3.774E+01 | 6.266E+01 | 0.000E+00 | 0.089 |
| CR-51 | 4.696E-01 | | 1.469E+01 | 2.455E+01 | 0.000E+00 | 0.019 |
| MN-54 | -1.522E+00 | | 1.968E+00 | 3.142E+00 | 0.000E+00 | -0.484 |
| CO-57 | -2.394E-01 | | 1.366E+00 | 2.228E+00 | 0.000E+00 | -0.107 |
| CO-58 | 1.604E-01 | | 1.843E+00 | 3.066E+00 | 0.000E+00 | 0.052 |
| FE-59 | 4.074E-01 | | 3.716E+00 | 6.051E+00 | 0.000E+00 | 0.067 |
| CO-60 | -8.050E-01 | | 2.959E+00 | 4.321E+00 | 0.000E+00 | -0.186 |
| ZN-65 | -4.735E+00 | | 4.970E+00 | 6.378E+00 | 0.000E+00 | -0.742 |
| SE-75 | 1.591E-01 | | 2.133E+00 | 3.608E+00 | 0.000E+00 | 0.044 |
| SR-85 | -1.921E+01 | | 2.759E+00 | 3.682E+00 | 0.000E+00 | -5.217 |
| Y-88 | 1.031E+00 | | 1.988E+00 | 3.370E+00 | 0.000E+00 | 0.306 |
| NB-94 | -1.269E+00 | | 1.687E+00 | 2.735E+00 | 0.000E+00 | -0.464 |
| NB-95 | -2.039E-01 | | 2.113E+00 | 3.037E+00 | 0.000E+00 | -0.067 |
| ZR-95 | 1.369E+00 | | 3.128E+00 | 5.311E+00 | 0.000E+00 | 0.258 |
| MO-99 | -1.077E+00 | | 2.609E+01 | 4.345E+01 | 0.000E+00 | -0.025 |
| RU-103 | -3.025E+00 | | 1.878E+00 | 2.861E+00 | 0.000E+00 | -1.057 |
| RU-106 | -2.866E+00 | | 1.686E+01 | 2.671E+01 | 0.000E+00 | -0.107 |
| AG-110m | -4.582E-01 | | 1.735E+00 | 2.888E+00 | 0.000E+00 | -0.159 |
| SN-113 | 2.982E+00 | | 2.208E+00 | 3.799E+00 | 0.000E+00 | 0.785 |
| SB-124 | 1.872E+00 | | 2.818E+00 | 3.007E+00 | 0.000E+00 | 0.623 |
| SB-125 | 1.081E+00 | | 4.868E+00 | 8.046E+00 | 0.000E+00 | 0.134 |
| TE-129M | -6.731E+00 | | 2.038E+01 | 3.286E+01 | 0.000E+00 | -0.205 |
| I-131 | -5.776E-01 | | 2.167E+00 | 3.561E+00 | 0.000E+00 | -0.162 |
| BA-133 | 7.864E-01 | | 2.584E+00 | 3.818E+00 | 0.000E+00 | 0.206 |
| CS-134 | 1.256E+00 | | 2.044E+00 | 2.954E+00 | 0.000E+00 | 0.425 |
| CS-136 | -4.857E-01 | | 1.956E+00 | 3.199E+00 | 0.000E+00 | -0.152 |
| CS-137 | 5.238E-01 | | 1.968E+00 | 3.343E+00 | 0.000E+00 | 0.157 |
| CE-139 | -7.962E-01 | | 1.514E+00 | 2.410E+00 | 0.000E+00 | -0.330 |
| BA-140 | 3.978E+00 | | 7.116E+00 | 1.175E+01 | 0.000E+00 | 0.338 |
| LA-140 | -1.547E+00 | | 2.545E+00 | 3.995E+00 | 0.000E+00 | -0.387 |
| CE-141 | -2.430E+00 | | 2.615E+00 | 4.154E+00 | 0.000E+00 | -0.585 |
| CE-144 | 5.719E+00 | | 1.078E+01 | 1.780E+01 | 0.000E+00 | 0.321 |
| EU-152 | 4.026E-01 | | 5.305E+00 | 8.549E+00 | 0.000E+00 | 0.047 |
| EU-154 | -2.812E-01 | | 2.865E+00 | 4.679E+00 | 0.000E+00 | -0.060 |
| AC-228 | -9.628E+00 | | 1.114E+01 | 1.337E+01 | 0.000E+00 | -0.720 |
| TH-232 | -9.620E+00 | | 1.113E+01 | 1.336E+01 | 0.000E+00 | -0.720 |
| U-235 | 6.997E+00 | | 1.266E+01 | 1.866E+01 | 0.000E+00 | 0.375 |
| U-238 | 1.960E+01 | | 2.186E+02 | 3.580E+02 | 0.000E+00 | 0.055 |
| AM-241 | 1.116E+01 | | 1.353E+01 | 2.103E+01 | 0.000E+00 | 0.531 |

| A, 04L29586-1 | | , 08/17/2006 09:02, 08/14/2006 09:45, | | 1.005E+00, L29586-1 WG EX | |
|---------------|--------|---------------------------------------|------------|--------------------------------|--------|
| B, 04L29586-1 | | , LIBD | | , 08/16/2006 15:06, 041L082004 | |
| C, RA-226 | , YES, | 7.253E+00, | 7.234E+01, | 6.055E+01,, | 0.120 |
| C, TH-228 | , YES, | 4.992E+00, | 4.272E+00, | 4.742E+00,, | 1.053 |
| C, BE-7 | , NO , | 6.234E+00, | 1.588E+01, | 2.621E+01,, | 0.238 |
| C, NA-24 | , NO , | -5.205E+00, | 3.227E+01, | 5.309E+01,, | -0.098 |
| C, K-40 | , NO , | 5.582E+00, | 3.774E+01, | 6.266E+01,, | 0.089 |
| C, CR-51 | , NO , | 4.696E-01, | 1.469E+01, | 2.455E+01,, | 0.019 |
| C, MN-54 | , NO , | -1.522E+00, | 1.968E+00, | 3.142E+00,, | -0.484 |
| C, CO-57 | , NO , | -2.394E-01, | 1.366E+00, | 2.228E+00,, | -0.107 |
| C, CO-58 | , NO , | 1.604E-01, | 1.843E+00, | 3.066E+00,, | 0.052 |
| C, FE-59 | , NO , | 4.074E-01, | 3.716E+00, | 6.051E+00,, | 0.067 |
| C, CO-60 | , NO , | -8.050E-01, | 2.959E+00, | 4.321E+00,, | -0.186 |
| C, ZN-65 | , NO , | -4.735E+00, | 4.970E+00, | 6.378E+00,, | -0.742 |
| C, SE-75 | , NO , | 1.591E-01, | 2.133E+00, | 3.608E+00,, | 0.044 |
| C, SR-85 | , NO , | -1.921E+01, | 2.759E+00, | 3.682E+00,, | -5.217 |
| C, Y-88 | , NO , | 1.031E+00, | 1.988E+00, | 3.370E+00,, | 0.306 |
| C, NB-94 | , NO , | -1.269E+00, | 1.687E+00, | 2.735E+00,, | -0.464 |
| C, NB-95 | , NO , | -2.039E-01, | 2.113E+00, | 3.037E+00,, | -0.067 |
| C, ZR-95 | , NO , | 1.369E+00, | 3.128E+00, | 5.311E+00,, | 0.258 |
| C, MO-99 | , NO , | -1.077E+00, | 2.609E+01, | 4.345E+01,, | -0.025 |
| C, RU-103 | , NO , | -3.025E+00, | 1.878E+00, | 2.861E+00,, | -1.057 |
| C, RU-106 | , NO , | -2.866E+00, | 1.686E+01, | 2.671E+01,, | -0.107 |
| C, AG-110m | , NO , | -4.582E-01, | 1.735E+00, | 2.888E+00,, | -0.159 |
| C, SN-113 | , NO , | 2.982E+00, | 2.208E+00, | 3.799E+00,, | 0.785 |
| C, SB-124 | , NO , | 1.872E+00, | 2.818E+00, | 3.007E+00,, | 0.623 |
| C, SB-125 | , NO , | 1.081E+00, | 4.868E+00, | 8.046E+00,, | 0.134 |
| C, TE-129M | , NO , | -6.731E+00, | 2.038E+01, | 3.286E+01,, | -0.205 |
| C, I-131 | , NO , | -5.776E-01, | 2.167E+00, | 3.561E+00,, | -0.162 |
| C, BA-133 | , NO , | 7.864E-01, | 2.584E+00, | 3.818E+00,, | 0.206 |
| C, CS-134 | , NO , | 1.256E+00, | 2.044E+00, | 2.954E+00,, | 0.425 |
| C, CS-136 | , NO , | -4.857E-01, | 1.956E+00, | 3.199E+00,, | -0.152 |
| C, CS-137 | , NO , | 5.238E-01, | 1.968E+00, | 3.343E+00,, | 0.157 |
| C, CE-139 | , NO , | -7.962E-01, | 1.514E+00, | 2.410E+00,, | -0.330 |
| C, BA-140 | , NO , | 3.978E+00, | 7.116E+00, | 1.175E+01,, | 0.338 |
| C, LA-140 | , NO , | -1.547E+00, | 2.545E+00, | 3.995E+00,, | -0.387 |
| C, CE-141 | , NO , | -2.430E+00, | 2.615E+00, | 4.154E+00,, | -0.585 |
| C, CE-144 | , NO , | 5.719E+00, | 1.078E+01, | 1.780E+01,, | 0.321 |
| C, EU-152 | , NO , | 4.026E-01, | 5.305E+00, | 8.549E+00,, | 0.047 |
| C, EU-154 | , NO , | -2.812E-01, | 2.865E+00, | 4.679E+00,, | -0.060 |
| C, AC-228 | , NO , | -9.628E+00, | 1.114E+01, | 1.337E+01,, | -0.720 |
| C, TH-232 | , NO , | -9.620E+00, | 1.113E+01, | 1.336E+01,, | -0.720 |
| C, U-235 | , NO , | 6.997E+00, | 1.266E+01, | 1.866E+01,, | 0.375 |
| C, U-238 | , NO , | 1.960E+01, | 2.186E+02, | 3.580E+02,, | 0.055 |
| C, AM-241 | , NO , | 1.116E+01, | 1.353E+01, | 2.103E+01,, | 0.531 |

Sec. Review: Analyst: LIMS: ✓

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VAX/VMS Teledyne Brown Eng. Laboratory Gamma Report: 16-AUG-2006 15:59:15.71
TBE15 P-10635B HpGe ***** Aquisition Date/Time: 16-AUG-2006 13:56:07.45

LIMS No., Customer Name, Client ID: L29586-2 WG EX/DRES

Sample ID : 15L29586-2 Smple Date: 14-AUG-2006 10:10:00.
Sample Type : WG Geometry : 153L082604
Quantity : 3.13720E+00 L BKGFILE : 15BG072806MT
Start Channel : 40 Energy Tol : 1.00000 Real Time : 0 02:03:02.37
End Channel : 4090 Pk Srch Sens: 5.00000 Live time : 0 02:03:01.53
MDA Constant : 0.00 Library Used: LIBD

| Pk | It | Energy | Area | Bkgnd | FWHM | Channel | %Eff | Cts/Sec | %Err | Fit |
|----|----|----------|------|-------|------|---------|----------|----------|------|----------|
| 1 | 1 | 295.25* | 57 | 101 | 1.29 | 580.78 | 1.18E+00 | 7.68E-03 | 35.4 | 1.60E+00 |
| 2 | 1 | 351.60* | 153 | 107 | 1.41 | 694.18 | 1.02E+00 | 2.07E-02 | 17.0 | 7.21E-01 |
| 3 | 1 | 609.02* | 124 | 31 | 1.82 | 1212.02 | 6.43E-01 | 1.68E-02 | 14.3 | 8.86E-01 |
| 4 | 1 | 1119.20* | 30 | 24 | 1.95 | 2237.72 | 3.97E-01 | 4.06E-03 | 43.7 | 7.68E-01 |
| 5 | 1 | 1192.83 | 14 | 13 | 1.26 | 2385.68 | 3.78E-01 | 1.85E-03 | 60.8 | 5.45E-01 |
| 6 | 1 | 1764.69* | 19 | 7 | 3.30 | 3534.33 | 2.78E-01 | 2.54E-03 | 44.0 | 5.15E-01 |

Flag: "*" = Peak area was modified by background subtraction

Nuclide Line Activity Report

Flag: "*" = Keyline

Summary of Nuclide Activity

Page : 2

Sample ID : 15L29586-2

Acquisition date : 16-AUG-2006 13:56:07

Total number of lines in spectrum

6

Number of unidentified lines

6

Number of lines tentatively identified by NID

0

0.00%

**** There are no nuclides meeting summary criteria ****

Flags: "K" = Keyline not found

"M" = Manually accepted

"E" = Manually edited

"A" = Nuclide specific abn. limit

Unidentified Energy Lines
Sample ID : 15L29586-2

Page : 3
Acquisition date : 16-AUG-2006 13:56:07

| It | Energy | Area | Bkgnd | FWHM | Channel | Left | Pw | Cts/Sec | %Err | %Eff | Flags |
|----|---------|------|-------|------|---------|------|----|----------|------|----------|-------|
| 1 | 295.25 | 57 | 101 | 1.29 | 580.78 | 577 | 8 | 7.68E-03 | 70.7 | 1.18E+00 | |
| 1 | 351.60 | 153 | 107 | 1.41 | 694.18 | 688 | 13 | 2.07E-02 | 33.9 | 1.02E+00 | |
| 1 | 609.02 | 124 | 31 | 1.82 | 1212.02 | 1206 | 13 | 1.68E-02 | 28.5 | 6.43E-01 | |
| 1 | 1119.20 | 30 | 24 | 1.95 | 2237.72 | 2229 | 16 | 4.06E-03 | 87.5 | 3.97E-01 | |
| 1 | 1192.83 | 14 | 13 | 1.26 | 2385.68 | 2376 | 13 | 1.85E-03 | **** | 3.78E-01 | |
| 1 | 1764.69 | 19 | 7 | 3.30 | 3534.33 | 3528 | 15 | 2.54E-03 | 87.9 | 2.78E-01 | |

Flags: "T" = Tentatively associated

Summary of Nuclide Activity

Total number of lines in spectrum 6
Number of unidentified lines 6
Number of lines tentatively identified by NID 0 0.00%
**** There are no nuclides meeting summary criteria ****

Flags: "K" = Keyline not found "M" = Manually accepted
"E" = Manually edited "A" = Nuclide specific abn. limit

Interference Report

No interference correction performed

Combined Activity-MDA Report

---- Non-Identified Nuclides ----

| Nuclide | Key-Line Activity (pCi/L) | K.L. Ided | Act error | MDA (pCi/L) | MDA error | Act/MDA |
|---------|---------------------------------|--------------|-----------|----------------|-----------|---------|
| BE-7 | 8.834E+00 | | 2.826E+01 | 4.893E+01 | 0.000E+00 | 0.181 |
| NA-24 | 1.576E+01 | | 4.282E+01 | 7.443E+01 | 0.000E+00 | 0.212 |
| K-40 | 2.322E+01 | | 5.950E+01 | 1.223E+02 | 0.000E+00 | 0.190 |
| CR-51 | 1.392E+00 | | 3.213E+01 | 5.264E+01 | 0.000E+00 | 0.026 |
| MN-54 | -5.656E-01 | | 4.125E+00 | 6.557E+00 | 0.000E+00 | -0.086 |
| CO-57 | 3.101E-01 | | 3.509E+00 | 5.641E+00 | 0.000E+00 | 0.055 |
| CO-58 | -1.028E+00 | | 3.732E+00 | 5.821E+00 | 0.000E+00 | -0.177 |
| FE-59 | 3.617E+00 | | 6.810E+00 | 1.215E+01 | 0.000E+00 | 0.298 |
| CO-60 | 2.220E+00 | | 3.797E+00 | 6.824E+00 | 0.000E+00 | 0.325 |
| ZN-65 | 2.321E+00 | | 8.100E+00 | 1.229E+01 | 0.000E+00 | 0.189 |
| SE-75 | 2.021E-01 | | 4.652E+00 | 7.708E+00 | 0.000E+00 | 0.026 |
| SR-85 | -8.252E+00 | | 4.625E+00 | 6.780E+00 | 0.000E+00 | -1.217 |
| Y-88 | 1.775E+00 | | 3.931E+00 | 7.105E+00 | 0.000E+00 | 0.250 |
| NB-94 | 3.582E+00 | | 4.146E+00 | 7.353E+00 | 0.000E+00 | 0.487 |
| NB-95 | 5.000E-01 | | 4.080E+00 | 6.732E+00 | 0.000E+00 | 0.074 |
| ZR-95 | -5.251E+00 | | 6.025E+00 | 8.556E+00 | 0.000E+00 | -0.614 |
| MO-99 | -3.768E+00 | | 4.752E+01 | 7.677E+01 | 0.000E+00 | -0.049 |
| RU-103 | -2.976E+00 | | 3.889E+00 | 6.087E+00 | 0.000E+00 | -0.489 |
| RU-106 | 1.912E+01 | | 3.734E+01 | 6.477E+01 | 0.000E+00 | 0.295 |
| AG-110m | 9.205E-01 | | 3.341E+00 | 5.682E+00 | 0.000E+00 | 0.162 |
| SN-113 | 2.253E+00 | | 4.953E+00 | 8.290E+00 | 0.000E+00 | 0.272 |
| SB-124 | 1.982E+00 | | 3.996E+00 | 6.162E+00 | 0.000E+00 | 0.322 |

| | | | | | |
|---------|------------|-----------|-----------|-----------|--------|
| SB-125 | 3.686E+00 | 1.122E+01 | 1.851E+01 | 0.000E+00 | 0.199 |
| TE-129M | -1.322E+01 | 4.185E+01 | 6.867E+01 | 0.000E+00 | -0.193 |
| I-131 | -2.142E+00 | 4.330E+00 | 6.709E+00 | 0.000E+00 | -0.319 |
| BA-133 | -2.669E+00 | 5.807E+00 | 7.803E+00 | 0.000E+00 | -0.342 |
| CS-134 | 1.571E+00 | 4.039E+00 | 6.130E+00 | 0.000E+00 | 0.256 |
| CS-136 | 9.858E-01 | 4.320E+00 | 7.195E+00 | 0.000E+00 | 0.137 |
| CS-137 | -3.126E+00 | 3.706E+00 | 5.429E+00 | 0.000E+00 | -0.576 |
| CE-139 | -2.933E-01 | 3.123E+00 | 5.263E+00 | 0.000E+00 | -0.056 |
| BA-140 | -1.635E+00 | 1.434E+01 | 2.368E+01 | 0.000E+00 | -0.069 |
| LA-140 | -3.605E+00 | 4.741E+00 | 6.733E+00 | 0.000E+00 | -0.535 |
| CE-141 | 6.331E+00 | 5.885E+00 | 9.909E+00 | 0.000E+00 | 0.639 |
| CE-144 | -1.228E+01 | 2.569E+01 | 3.976E+01 | 0.000E+00 | -0.309 |
| EU-152 | -3.628E+00 | 1.165E+01 | 1.779E+01 | 0.000E+00 | -0.204 |
| EU-154 | -1.996E+00 | 7.430E+00 | 1.171E+01 | 0.000E+00 | -0.170 |
| RA-226 | -5.591E+01 | 8.346E+01 | 1.382E+02 | 0.000E+00 | -0.404 |
| AC-228 | 3.043E-01 | 1.552E+01 | 2.569E+01 | 0.000E+00 | 0.012 |
| TH-228 | -9.095E+00 | 6.897E+00 | 1.089E+01 | 0.000E+00 | -0.835 |
| TH-232 | 3.041E-01 | 1.551E+01 | 2.567E+01 | 0.000E+00 | 0.012 |
| U-235 | 5.422E+00 | 2.704E+01 | 4.332E+01 | 0.000E+00 | 0.125 |
| U-238 | -3.550E+02 | 4.110E+02 | 6.272E+02 | 0.000E+00 | -0.566 |
| AM-241 | -1.490E+01 | 3.833E+01 | 6.190E+01 | 0.000E+00 | -0.241 |

| | | | |
|--------------|-------|-------------------------------------|-------------------------------|
| A,15L29586-2 | | ,08/16/2006 15:59,08/14/2006 10:10, | 3.137E+00,L29586-2 WG EX |
| B,15L29586-2 | | ,LIBD | ,08/16/2006 09:32,153L082604 |
| C,BE-7 | ,NO , | 8.834E+00, | 2.826E+01, 4.893E+01,, 0.181 |
| C,NA-24 | ,NO , | 1.576E+01, | 4.282E+01, 7.443E+01,, 0.212 |
| C,K-40 | ,NO , | 2.322E+01, | 5.950E+01, 1.223E+02,, 0.190 |
| C,CR-51 | ,NO , | 1.392E+00, | 3.213E+01, 5.264E+01,, 0.026 |
| C,MN-54 | ,NO , | -5.656E-01, | 4.125E+00, 6.557E+00,, -0.086 |
| C,CO-57 | ,NO , | 3.101E-01, | 3.509E+00, 5.641E+00,, 0.055 |
| C,CO-58 | ,NO , | -1.028E+00, | 3.732E+00, 5.821E+00,, -0.177 |
| C,FE-59 | ,NO , | 3.617E+00, | 6.810E+00, 1.215E+01,, 0.298 |
| C,CO-60 | ,NO , | 2.220E+00, | 3.797E+00, 6.824E+00,, 0.325 |
| C,ZN-65 | ,NO , | 2.321E+00, | 8.100E+00, 1.229E+01,, 0.189 |
| C,SE-75 | ,NO , | 2.021E-01, | 4.652E+00, 7.708E+00,, 0.026 |
| C,SR-85 | ,NO , | -8.252E+00, | 4.625E+00, 6.780E+00,, -1.217 |
| C,Y-88 | ,NO , | 1.775E+00, | 3.931E+00, 7.105E+00,, 0.250 |
| C,NB-94 | ,NO , | 3.582E+00, | 4.146E+00, 7.353E+00,, 0.487 |
| C,NB-95 | ,NO , | 5.000E-01, | 4.080E+00, 6.732E+00,, 0.074 |
| C,ZR-95 | ,NO , | -5.251E+00, | 6.025E+00, 8.556E+00,, -0.614 |
| C,MO-99 | ,NO , | -3.768E+00, | 4.752E+01, 7.677E+01,, -0.049 |
| C,RU-103 | ,NO , | -2.976E+00, | 3.889E+00, 6.087E+00,, -0.489 |
| C,RU-106 | ,NO , | 1.912E+01, | 3.734E+01, 6.477E+01,, 0.295 |
| C,AG-110m | ,NO , | 9.205E-01, | 3.341E+00, 5.682E+00,, 0.162 |
| C,SN-113 | ,NO , | 2.253E+00, | 4.953E+00, 8.290E+00,, 0.272 |
| C,SB-124 | ,NO , | 1.982E+00, | 3.996E+00, 6.162E+00,, 0.322 |
| C,SB-125 | ,NO , | 3.686E+00, | 1.122E+01, 1.851E+01,, 0.199 |
| C,TE-129M | ,NO , | -1.322E+01, | 4.185E+01, 6.867E+01,, -0.193 |
| C,I-131 | ,NO , | -2.142E+00, | 4.330E+00, 6.709E+00,, -0.319 |
| C,BA-133 | ,NO , | -2.669E+00, | 5.807E+00, 7.803E+00,, -0.342 |
| C,CS-134 | ,NO , | 1.571E+00, | 4.039E+00, 6.130E+00,, 0.256 |
| C,CS-136 | ,NO , | 9.858E-01, | 4.320E+00, 7.195E+00,, 0.137 |
| C,CS-137 | ,NO , | -3.126E+00, | 3.706E+00, 5.429E+00,, -0.576 |
| C,CE-139 | ,NO , | -2.933E-01, | 3.123E+00, 5.263E+00,, -0.056 |
| C,BA-140 | ,NO , | -1.635E+00, | 1.434E+01, 2.368E+01,, -0.069 |
| C,LA-140 | ,NO , | -3.605E+00, | 4.741E+00, 6.733E+00,, -0.535 |
| C,CE-141 | ,NO , | 6.331E+00, | 5.885E+00, 9.909E+00,, 0.639 |
| C,CE-144 | ,NO , | -1.228E+01, | 2.569E+01, 3.976E+01,, -0.309 |
| C,EU-152 | ,NO , | -3.628E+00, | 1.165E+01, 1.779E+01,, -0.204 |
| C,EU-154 | ,NO , | -1.996E+00, | 7.430E+00, 1.171E+01,, -0.170 |
| C,RA-226 | ,NO , | -5.591E+01, | 8.346E+01, 1.382E+02,, -0.404 |
| C,AC-228 | ,NO , | 3.043E-01, | 1.552E+01, 2.569E+01,, 0.012 |
| C,TH-228 | ,NO , | -9.095E+00, | 6.897E+00, 1.089E+01,, -0.835 |
| C,TH-232 | ,NO , | 3.041E-01, | 1.551E+01, 2.567E+01,, 0.012 |
| C,U-235 | ,NO , | 5.422E+00, | 2.704E+01, 4.332E+01,, 0.125 |
| C,U-238 | ,NO , | -3.550E+02, | 4.110E+02, 6.272E+02,, -0.566 |
| C,AM-241 | ,NO , | -1.490E+01, | 3.833E+01, 6.190E+01,, -0.241 |

Sec. Review: Analyst: LIMS: ✓

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VAX/VMS Teledyne Brown Eng. Laboratory Gamma Report: 16-AUG-2006 17:58:48.01
TBE11 P-20610B HpGe ***** Aquisition Date/Time: 16-AUG-2006 14:29:21.10

LIMS No., Customer Name, Client ID: L29586-3 WG EX/DRES

Sample ID : 11L29586-3 Smple Date: 14-AUG-2006 11:10:00.
Sample Type : WG Geometry : 113L082304
Quantity : 3.13670E+00 L BKGFILE : 11BG072806MT
Start Channel : 40 Energy Tol : 1.00000 Real Time : 0 03:29:21.74
End Channel : 4090 Pk Srch Sens: 5.00000 Live time : 0 03:29:16.67
MDA Constant : 0.00 Library Used: LIBD

| Pk | It | Energy | Area | Bkgnd | FWHM | Channel | %Eff | Cts/Sec | %Err | Fit |
|----|----|----------|------|-------|------|---------|----------|----------|-------|-----|
| 1 | 0 | 66.62 | 91 | 557 | 1.53 | 132.56 | 6.97E-01 | 7.21E-03 | 44.5 | |
| 2 | 0 | 139.79* | 93 | 383 | 1.03 | 279.39 | 1.90E+00 | 7.41E-03 | 39.9 | |
| 3 | 0 | 198.12* | 87 | 225 | 1.45 | 396.40 | 1.75E+00 | 6.95E-03 | 31.8 | |
| 4 | 0 | 238.51* | 4 | 206 | 1.11 | 477.42 | 1.58E+00 | 3.26E-04 | 645.4 | |
| 5 | 0 | 294.94* | 64 | 215 | 1.30 | 590.56 | 1.37E+00 | 5.08E-03 | 44.6 | |
| 6 | 0 | 351.28* | 159 | 153 | 1.70 | 703.54 | 1.20E+00 | 1.26E-02 | 18.4 | |
| 7 | 0 | 595.78 | 62 | 54 | 1.20 | 1193.45 | 8.04E-01 | 4.91E-03 | 25.8 | |
| 8 | 0 | 609.28* | 154 | 85 | 1.74 | 1220.49 | 7.90E-01 | 1.22E-02 | 15.6 | |
| 9 | 0 | 1120.92 | 57 | 24 | 2.40 | 2244.26 | 4.86E-01 | 4.56E-03 | 22.5 | |
| 10 | 0 | 1461.07* | 7 | 53 | 1.96 | 2923.80 | 3.92E-01 | 5.19E-04 | 291.4 | |
| 11 | 0 | 1762.36* | 34 | 15 | 2.91 | 3525.02 | 3.39E-01 | 2.69E-03 | 34.0 | |

Flag: "*" = Peak area was modified by background subtraction

Nuclide Line Activity Report

Nuclide Type: natural

| Nuclide | Energy | Area | %Abn | %Eff | Uncorrected pCi/L | Decay Corr pCi/L | 2-Sigma %Error |
|---------|---------|-------|--------|-----------|----------------------|---------------------|-------------------|
| K-40 | 1460.81 | 7 | 10.67* | 3.918E-01 | 1.069E+01 | 1.069E+01 | 582.77 |
| TH-228 | 238.63 | 4 | 44.60* | 1.577E+00 | 3.997E-01 | 4.006E-01 | 1290.82 |
| | 240.98 | ----- | 3.95 | 1.567E+00 | ----- | Line Not Found | ----- |

Flag: "*" = Keyline

Summary of Nuclide Activity

Page : 2

Sample ID : 11L29586-3

Acquisition date : 16-AUG-2006 14:29:21

| | | |
|---|----|--------|
| Total number of lines in spectrum | 11 | |
| Number of unidentified lines | 9 | |
| Number of lines tentatively identified by NID | 2 | 18.18% |

Nuclide Type : natural

| Nuclide | Hlife | Decay | Uncorrected pCi/L | Decay Corr pCi/L | Decay Corr 2-Sigma Error | 2-Sigma %Error | Flags |
|------------------|-----------|-------|----------------------|---------------------|-----------------------------|-------------------|-------|
| K-40 | 1.28E+09Y | 1.00 | 1.069E+01 | 1.069E+01 | 6.228E+01 | 582.77 | |
| TH-228 | 1.91Y | 1.00 | 3.997E-01 | 4.006E-01 | 51.71E-01 | 1290.82 | |
| | | | ----- | ----- | | | |
| Total Activity : | | | 1.109E+01 | 1.109E+01 | | | |

| | | |
|------------------------|-----------|-----------|
| Grand Total Activity : | 1.109E+01 | 1.109E+01 |
|------------------------|-----------|-----------|

Flags: "K" = Keyline not found
"E" = Manually edited

"M" = Manually accepted
"A" = Nuclide specific abn. limit

Unidentified Energy Lines
Sample ID : 11L29586-3

Page : 3
Acquisition date : 16-AUG-2006 14:29:21

| It | Energy | Area | Bkgnd | FWHM | Channel | Left | Pw | Cts/Sec | %Err | %Eff | Flags |
|----|---------|------|-------|------|---------|------|----|----------|------|----------|-------|
| 0 | 66.62 | 91 | 557 | 1.53 | 132.56 | 129 | 7 | 7.21E-03 | 89.0 | 6.97E-01 | |
| 0 | 139.79 | 93 | 383 | 1.03 | 279.39 | 275 | 9 | 7.41E-03 | 79.8 | 1.90E+00 | |
| 0 | 198.12 | 87 | 225 | 1.45 | 396.40 | 393 | 7 | 6.95E-03 | 63.6 | 1.75E+00 | |
| 0 | 294.94 | 64 | 215 | 1.30 | 590.56 | 587 | 9 | 5.08E-03 | 89.2 | 1.37E+00 | |
| 0 | 351.28 | 159 | 153 | 1.70 | 703.54 | 696 | 12 | 1.26E-02 | 36.9 | 1.20E+00 | |
| 0 | 595.78 | 62 | 54 | 1.20 | 1193.45 | 1188 | 10 | 4.91E-03 | 51.6 | 8.04E-01 | |
| 0 | 609.28 | 154 | 85 | 1.74 | 1220.49 | 1215 | 13 | 1.22E-02 | 31.2 | 7.90E-01 | |
| 0 | 1120.92 | 57 | 24 | 2.40 | 2244.26 | 2237 | 14 | 4.56E-03 | 45.1 | 4.86E-01 | |
| 0 | 1762.36 | 34 | 15 | 2.91 | 3525.02 | 3517 | 15 | 2.69E-03 | 68.0 | 3.39E-01 | |

Flags: "T" = Tentatively associated

Summary of Nuclide Activity

| | |
|---|--------|
| Total number of lines in spectrum | 11 |
| Number of unidentified lines | 9 |
| Number of lines tentatively identified by NID | 2 |
| | 18.18% |

Nuclide Type : natural

| Nuclide | Hlife | Decay | Wtd Mean Uncorrected pCi/L | Wtd Mean Decay Corr pCi/L | Decay Corr 2-Sigma Error | 2-Sigma %Error | Flags |
|------------------|-----------|-------|----------------------------------|---------------------------------|-----------------------------|-------------------|-------|
| K-40 | 1.28E+09Y | 1.00 | 1.069E+01 | 1.069E+01 | 6.228E+01 | 582.77 | |
| TH-228 | 1.91Y | 1.00 | 3.997E-01 | 4.006E-01 | 51.71E-01 | 1290.82 | |
| Total Activity : | | | 1.109E+01 | 1.109E+01 | | | |

Grand Total Activity : 1.109E+01 1.109E+01

Flags: "K" = Keyline not found "M" = Manually accepted
"E" = Manually edited "A" = Nuclide specific abn. limit

Interference Report

No interference correction performed

Combined Activity-MDA Report

---- Identified Nuclides ----

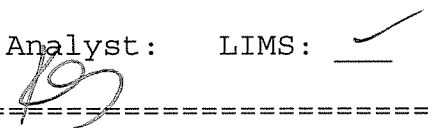
| Nuclide | Activity (pCi/L) | Act error | MDA (pCi/L) | MDA error | Act/MDA |
|---------|---------------------|-----------|----------------|-----------|---------|
| K-40 | 1.069E+01 | 6.228E+01 | 4.162E+01 | 0.000E+00 | 0.257 |
| TH-228 | 4.006E-01 | 5.171E+00 | 7.865E+00 | 0.000E+00 | 0.051 |

---- Non-Identified Nuclides ----

| Nuclide | Key-Line Activity (pCi/L) | K.L. Ided | Act error | MDA (pCi/L) | MDA error | Act/MDA |
|---------|---------------------------------|--------------|-----------|----------------|-----------|---------|
|---------|---------------------------------|--------------|-----------|----------------|-----------|---------|

| | | | | | |
|---------|------------|-----------|-----------|-----------|--------|
| BE-7 | -1.010E-01 | 2.057E+01 | 3.438E+01 | 0.000E+00 | -0.003 |
| NA-24 | -1.396E+01 | 2.794E+01 | 4.299E+01 | 0.000E+00 | -0.325 |
| CR-51 | 1.110E+01 | 2.062E+01 | 3.422E+01 | 0.000E+00 | 0.324 |
| MN-54 | 1.473E+00 | 2.407E+00 | 4.140E+00 | 0.000E+00 | 0.356 |
| CO-57 | -1.389E+00 | 2.324E+00 | 3.778E+00 | 0.000E+00 | -0.368 |
| CO-58 | -1.741E+00 | 2.314E+00 | 3.473E+00 | 0.000E+00 | -0.501 |
| FE-59 | -2.376E+00 | 4.651E+00 | 7.377E+00 | 0.000E+00 | -0.322 |
| CO-60 | -2.400E+00 | 2.215E+00 | 3.052E+00 | 0.000E+00 | -0.786 |
| ZN-65 | 2.027E+00 | 5.526E+00 | 8.438E+00 | 0.000E+00 | 0.240 |
| SE-75 | -1.886E+00 | 3.182E+00 | 4.994E+00 | 0.000E+00 | -0.378 |
| SR-85 | -6.593E+00 | 3.188E+00 | 4.773E+00 | 0.000E+00 | -1.381 |
| Y-88 | -7.264E-02 | 2.568E+00 | 4.148E+00 | 0.000E+00 | -0.018 |
| NB-94 | 5.717E-01 | 2.190E+00 | 3.678E+00 | 0.000E+00 | 0.155 |
| NB-95 | 1.154E+00 | 2.594E+00 | 4.395E+00 | 0.000E+00 | 0.263 |
| ZR-95 | -1.271E-01 | 4.513E+00 | 7.360E+00 | 0.000E+00 | -0.017 |
| MO-99 | -1.102E+01 | 3.140E+01 | 4.976E+01 | 0.000E+00 | -0.221 |
| RU-103 | -2.525E+00 | 2.458E+00 | 3.813E+00 | 0.000E+00 | -0.662 |
| RU-106 | -2.449E+00 | 2.280E+01 | 3.734E+01 | 0.000E+00 | -0.066 |
| AG-110m | -8.229E-01 | 2.630E+00 | 4.230E+00 | 0.000E+00 | -0.195 |
| SN-113 | 1.393E+00 | 2.922E+00 | 5.064E+00 | 0.000E+00 | 0.275 |
| SB-124 | 1.050E+00 | 2.440E+00 | 3.678E+00 | 0.000E+00 | 0.286 |
| SB-125 | 7.083E-01 | 7.125E+00 | 1.204E+01 | 0.000E+00 | 0.059 |
| TE-129M | 1.245E+01 | 2.786E+01 | 4.796E+01 | 0.000E+00 | 0.260 |
| I-131 | -9.128E-01 | 3.049E+00 | 4.781E+00 | 0.000E+00 | -0.191 |
| BA-133 | 1.481E-01 | 3.745E+00 | 5.246E+00 | 0.000E+00 | 0.028 |
| CS-134 | 1.210E+00 | 2.354E+00 | 3.583E+00 | 0.000E+00 | 0.338 |
| CS-136 | -1.913E+00 | 2.611E+00 | 3.933E+00 | 0.000E+00 | -0.486 |
| CS-137 | 1.479E+00 | 2.923E+00 | 4.990E+00 | 0.000E+00 | 0.296 |
| CE-139 | -3.846E-01 | 2.327E+00 | 3.808E+00 | 0.000E+00 | -0.101 |
| BA-140 | -3.186E+00 | 8.962E+00 | 1.450E+01 | 0.000E+00 | -0.220 |
| LA-140 | -2.173E-01 | 3.263E+00 | 5.297E+00 | 0.000E+00 | -0.041 |
| CE-141 | -1.555E+00 | 4.148E+00 | 6.525E+00 | 0.000E+00 | -0.238 |
| CE-144 | -3.380E+00 | 1.869E+01 | 2.973E+01 | 0.000E+00 | -0.114 |
| EU-152 | 2.429E+00 | 7.796E+00 | 1.122E+01 | 0.000E+00 | 0.216 |
| EU-154 | 1.657E+00 | 4.827E+00 | 8.121E+00 | 0.000E+00 | 0.204 |
| RA-226 | -4.592E+01 | 6.094E+01 | 9.712E+01 | 0.000E+00 | -0.473 |
| AC-228 | -1.029E+00 | 1.014E+01 | 1.747E+01 | 0.000E+00 | -0.059 |
| TH-232 | -1.028E+00 | 1.014E+01 | 1.746E+01 | 0.000E+00 | -0.059 |
| U-235 | 5.671E+00 | 1.963E+01 | 2.897E+01 | 0.000E+00 | 0.196 |
| U-238 | -1.282E+02 | 2.667E+02 | 4.051E+02 | 0.000E+00 | -0.317 |
| AM-241 | 1.295E+01 | 2.695E+01 | 4.616E+01 | 0.000E+00 | 0.281 |

| | | |
|--------------|-------------------------------------|---|
| A,11L29586-3 | ,08/16/2006 17:58,08/14/2006 11:10, | 3.137E+00,L29586-3 WG EX |
| B,11L29586-3 | ,LIBD | ,08/16/2006 09:32,113L082304 |
| C,K-40 | ,YES, | 1.069E+01, 6.228E+01, 4.162E+01,, 0.257 |
| C,TH-228 | ,YES, | 4.006E-01, 5.171E+00, 7.865E+00,, 0.051 |
| C,BE-7 | ,NO , | -1.010E-01, 2.057E+01, 3.438E+01,, -0.003 |
| C,NA-24 | ,NO , | -1.396E+01, 2.794E+01, 4.299E+01,, -0.325 |
| C,CR-51 | ,NO , | 1.110E+01, 2.062E+01, 3.422E+01,, 0.324 |
| C,MN-54 | ,NO , | 1.473E+00, 2.407E+00, 4.140E+00,, 0.356 |
| C,CO-57 | ,NO , | -1.389E+00, 2.324E+00, 3.778E+00,, -0.368 |
| C,CO-58 | ,NO , | -1.741E+00, 2.314E+00, 3.473E+00,, -0.501 |
| C,FE-59 | ,NO , | -2.376E+00, 4.651E+00, 7.377E+00,, -0.322 |
| C,CO-60 | ,NO , | -2.400E+00, 2.215E+00, 3.052E+00,, -0.786 |
| C,ZN-65 | ,NO , | 2.027E+00, 5.526E+00, 8.438E+00,, 0.240 |
| C,SE-75 | ,NO , | -1.886E+00, 3.182E+00, 4.994E+00,, -0.378 |
| C,SR-85 | ,NO , | -6.593E+00, 3.188E+00, 4.773E+00,, -1.381 |
| C,Y-88 | ,NO , | -7.264E-02, 2.568E+00, 4.148E+00,, -0.018 |
| C,NB-94 | ,NO , | 5.717E-01, 2.190E+00, 3.678E+00,, 0.155 |
| C,NB-95 | ,NO , | 1.154E+00, 2.594E+00, 4.395E+00,, 0.263 |
| C,ZR-95 | ,NO , | -1.271E-01, 4.513E+00, 7.360E+00,, -0.017 |
| C,MO-99 | ,NO , | -1.102E+01, 3.140E+01, 4.976E+01,, -0.221 |
| C,RU-103 | ,NO , | -2.525E+00, 2.458E+00, 3.813E+00,, -0.662 |
| C,RU-106 | ,NO , | -2.449E+00, 2.280E+01, 3.734E+01,, -0.066 |
| C,AG-110m | ,NO , | -8.229E-01, 2.630E+00, 4.230E+00,, -0.195 |
| C,SN-113 | ,NO , | 1.393E+00, 2.922E+00, 5.064E+00,, 0.275 |
| C,SB-124 | ,NO , | 1.050E+00, 2.440E+00, 3.678E+00,, 0.286 |
| C,SB-125 | ,NO , | 7.083E-01, 7.125E+00, 1.204E+01,, 0.059 |
| C,TE-129M | ,NO , | 1.245E+01, 2.786E+01, 4.796E+01,, 0.260 |
| C,I-131 | ,NO , | -9.128E-01, 3.049E+00, 4.781E+00,, -0.191 |
| C,BA-133 | ,NO , | 1.481E-01, 3.745E+00, 5.246E+00,, 0.028 |
| C,CS-134 | ,NO , | 1.210E+00, 2.354E+00, 3.583E+00,, 0.338 |
| C,CS-136 | ,NO , | -1.913E+00, 2.611E+00, 3.933E+00,, -0.486 |
| C,CS-137 | ,NO , | 1.479E+00, 2.923E+00, 4.990E+00,, 0.296 |
| C,CE-139 | ,NO , | -3.846E-01, 2.327E+00, 3.808E+00,, -0.101 |
| C,BA-140 | ,NO , | -3.186E+00, 8.962E+00, 1.450E+01,, -0.220 |
| C,LA-140 | ,NO , | -2.173E-01, 3.263E+00, 5.297E+00,, -0.041 |
| C,CE-141 | ,NO , | -1.555E+00, 4.148E+00, 6.525E+00,, -0.238 |
| C,CE-144 | ,NO , | -3.380E+00, 1.869E+01, 2.973E+01,, -0.114 |
| C,EU-152 | ,NO , | 2.429E+00, 7.796E+00, 1.122E+01,, 0.216 |
| C,EU-154 | ,NO , | 1.657E+00, 4.827E+00, 8.121E+00,, 0.204 |
| C,RA-226 | ,NO , | -4.592E+01, 6.094E+01, 9.712E+01,, -0.473 |
| C,AC-228 | ,NO , | -1.029E+00, 1.014E+01, 1.747E+01,, -0.059 |
| C,TH-232 | ,NO , | -1.028E+00, 1.014E+01, 1.746E+01,, -0.059 |
| C,U-235 | ,NO , | 5.671E+00, 1.963E+01, 2.897E+01,, 0.196 |
| C,U-238 | ,NO , | -1.282E+02, 2.667E+02, 4.051E+02,, -0.317 |
| C,AM-241 | ,NO , | 1.295E+01, 2.695E+01, 4.616E+01,, 0.281 |

Sec. Review: Analyst: LIMS: 

VAX/VMS Teledyne Brown Eng. Laboratory Gamma Report: 16-AUG-2006 17:59:46.13
TBE10 12892256 HpGe ***** Aquisition Date/Time: 16-AUG-2006 14:48:42.72

LIMS No., Customer Name, Client ID: L29586-4 WG EX/DRES

Sample ID : 10L29586-4 Smple Date: 14-AUG-2006 12:55:00.
Sample Type : WG Geometry : 103L083004
Quantity : 2.95550E+00 L BKGFILE : 10BG072806MT
Start Channel : 80 Energy Tol : 1.00000 Real Time : 0 03:10:59.34
End Channel : 4090 Pk Srch Sens: 5.00000 Live time : 0 03:10:57.19
MDA Constant : 0.00 Library Used: LIBD

| Pk | It | Energy | Area | Bkgnd | FWHM | Channel | %Eff | Cts/Sec | %Err | Fit |
|----|----|----------|------|-------|------|---------|----------|----------|-------|----------|
| 1 | 1 | 66.50 | 130 | 538 | 1.52 | 132.31 | 7.34E-01 | 1.13E-02 | 33.5 | 3.75E-01 |
| 2 | 1 | 74.86* | 13 | 450 | 0.79 | 149.05 | 1.03E+00 | 1.11E-03 | 296.1 | 3.31E+00 |
| 3 | 1 | 77.19 | 130 | 269 | 0.96 | 153.72 | 1.10E+00 | 1.14E-02 | 20.7 | 2.68E+00 |
| 4 | 1 | 140.49 | 114 | 422 | 0.84 | 280.42 | 1.91E+00 | 9.98E-03 | 33.7 | 1.47E+01 |
| 5 | 1 | 238.53* | 16 | 176 | 1.17 | 476.69 | 1.54E+00 | 1.41E-03 | 144.5 | 2.33E+00 |
| 6 | 1 | 242.02 | 77 | 200 | 1.33 | 483.67 | 1.52E+00 | 6.68E-03 | 33.4 | 2.36E+00 |
| 7 | 1 | 295.37* | 225 | 257 | 1.10 | 590.48 | 1.33E+00 | 1.97E-02 | 15.7 | 2.37E+00 |
| 8 | 1 | 351.93* | 367 | 163 | 1.58 | 703.72 | 1.17E+00 | 3.20E-02 | 9.2 | 2.60E+00 |
| 9 | 1 | 596.00 | 46 | 52 | 1.49 | 1192.38 | 7.86E-01 | 4.00E-03 | 31.9 | 8.41E-01 |
| 10 | 1 | 609.30* | 305 | 94 | 1.60 | 1219.00 | 7.72E-01 | 2.66E-02 | 9.2 | 1.61E+00 |
| 11 | 1 | 767.88 | 76 | 65 | 6.12 | 1536.53 | 6.46E-01 | 6.64E-03 | 27.6 | 6.73E+00 |
| 12 | 1 | 934.13 | 24 | 20 | 2.00 | 1869.43 | 5.54E-01 | 2.07E-03 | 41.1 | 1.14E+00 |
| 13 | 1 | 1120.18* | 68 | 18 | 1.77 | 2242.01 | 4.79E-01 | 5.89E-03 | 19.8 | 1.55E+00 |
| 14 | 1 | 1377.40 | 24 | 30 | 2.25 | 2757.19 | 4.07E-01 | 2.07E-03 | 50.0 | 1.61E+00 |
| 15 | 1 | 1729.90 | 19 | 7 | 2.18 | 3463.28 | 3.44E-01 | 1.64E-03 | 34.9 | 7.11E-01 |
| 16 | 1 | 1764.60* | 62 | 29 | 2.20 | 3532.78 | 3.39E-01 | 5.40E-03 | 25.9 | 8.42E-01 |

Flag: "*" = Peak area was modified by background subtraction

Nuclide Line Activity Report

Nuclide Type: natural

| Nuclide | Energy | Area | %Abn | %Eff | Uncorrected pCi/L | Decay Corr pCi/L | 2-Sigma %Error |
|---------|--------|-------|--------|-----------|----------------------|---------------------|-------------------|
| TH-228 | 238.63 | 16 | 44.60* | 1.539E+00 | 1.885E+00 | 1.889E+00 | 288.99 |
| | 240.98 | ----- | 3.95 | 1.529E+00 | ----- | Line Not Found | ----- |

Flag: "*" = Keyline

Summary of Nuclide Activity

Sample ID : 10L29586-4

Page : 2

Acquisition date : 16-AUG-2006 14:48:42

| | |
|---|-------|
| Total number of lines in spectrum | 16 |
| Number of unidentified lines | 15 |
| Number of lines tentatively identified by NID | 1 |
| | 6.25% |

Nuclide Type : natural

| Nuclide | Hlife | Decay | Uncorrected pCi/L | Decay Corr pCi/L | Decay Corr 2-Sigma Error | 2-Sigma %Error | Flags |
|---------|-------|------------------|----------------------|---------------------|-----------------------------|-------------------|-------|
| TH-228 | 1.91Y | 1.00 | 1.885E+00 | 1.889E+00 | 5.459E+00 | 288.99 | |
| | | | ----- | ----- | | | |
| | | Total Activity : | 1.885E+00 | 1.889E+00 | | | |

| | | |
|------------------------|-----------|-----------|
| Grand Total Activity : | 1.885E+00 | 1.889E+00 |
|------------------------|-----------|-----------|

Flags: "K" = Keyline not found
"E" = Manually edited

"M" = Manually accepted
"A" = Nuclide specific abn. limit

Unidentified Energy Lines
Sample ID : 10L29586-4

Page : 3
Acquisition date : 16-AUG-2006 14:48:42

| It | Energy | Area | Bkgnd | FWHM | Channel | Left | Pw | Cts/Sec | %Err | %Eff | Flags |
|----|---------|------|-------|------|---------|------|----|----------|------|----------|-------|
| 1 | 66.50 | 130 | 538 | 1.52 | 132.31 | 128 | 9 | 1.13E-02 | 67.1 | 7.34E-01 | |
| 1 | 74.86 | 13 | 450 | 0.79 | 149.05 | 145 | 7 | 1.11E-03 | **** | 1.03E+00 | |
| 1 | 77.19 | 130 | 269 | 0.96 | 153.72 | 152 | 5 | 1.14E-02 | 41.4 | 1.10E+00 | |
| 1 | 140.49 | 114 | 422 | 0.84 | 280.42 | 276 | 9 | 9.98E-03 | 67.5 | 1.91E+00 | |
| 1 | 242.02 | 77 | 200 | 1.33 | 483.67 | 481 | 7 | 6.68E-03 | 66.9 | 1.52E+00 | |
| 1 | 295.37 | 225 | 257 | 1.10 | 590.48 | 586 | 11 | 1.97E-02 | 31.4 | 1.33E+00 | |
| 1 | 351.93 | 367 | 163 | 1.58 | 703.72 | 698 | 13 | 3.20E-02 | 18.4 | 1.17E+00 | |
| 1 | 596.00 | 46 | 52 | 1.49 | 1192.38 | 1187 | 9 | 4.00E-03 | 63.8 | 7.86E-01 | |
| 1 | 609.30 | 305 | 94 | 1.60 | 1219.00 | 1213 | 13 | 2.66E-02 | 18.4 | 7.72E-01 | |
| 1 | 767.88 | 76 | 65 | 6.12 | 1536.53 | 1531 | 19 | 6.64E-03 | 55.3 | 6.46E-01 | |
| 1 | 934.13 | 24 | 20 | 2.00 | 1869.43 | 1863 | 10 | 2.07E-03 | 82.3 | 5.54E-01 | |
| 1 | 1120.18 | 68 | 18 | 1.77 | 2242.01 | 2235 | 14 | 5.89E-03 | 39.7 | 4.79E-01 | |
| 1 | 1377.40 | 24 | 30 | 2.25 | 2757.19 | 2750 | 12 | 2.07E-03 | **** | 4.07E-01 | |
| 1 | 1729.90 | 19 | 7 | 2.18 | 3463.28 | 3458 | 10 | 1.64E-03 | 69.8 | 3.44E-01 | |
| 1 | 1764.60 | 62 | 29 | 2.20 | 3532.78 | 3524 | 19 | 5.40E-03 | 51.8 | 3.39E-01 | |

Flags: "T" = Tentatively associated

Summary of Nuclide Activity

| | |
|---|---------|
| Total number of lines in spectrum | 16 |
| Number of unidentified lines | 15 |
| Number of lines tentatively identified by NID | 1 6.25% |

Nuclide Type : natural

| Nuclide | Hlife | Decay | Wtd Mean Uncorrected pCi/L | Wtd Mean Decay Corr pCi/L | Decay Corr 2-Sigma Error | 2-Sigma %Error | Flags |
|------------------|-------|-------|----------------------------------|---------------------------------|-----------------------------|-------------------|-------|
| TH-228 | 1.91Y | 1.00 | 1.885E+00 | 1.889E+00 | 5.459E+00 | 288.99 | |
| Total Activity : | | | 1.885E+00 | 1.889E+00 | | | |

Grand Total Activity : 1.885E+00 1.889E+00

Flags: "K" = Keyline not found "M" = Manually accepted
"E" = Manually edited "A" = Nuclide specific abn. limit

Interference Report

No interference correction performed

Combined Activity-MDA Report

---- Identified Nuclides ----

| Nuclide | Activity (pCi/L) | Act error | MDA (pCi/L) | MDA error | Act/MDA |
|---------|---------------------|-----------|----------------|-----------|---------|
| TH-228 | 1.889E+00 | 5.459E+00 | 8.562E+00 | 0.000E+00 | 0.221 |

---- Non-Identified Nuclides ----

| Nuclide | Key-Line Activity (pCi/L) | K.L. Ided | Act error | MDA (pCi/L) | MDA error | Act/MDA |
|---------|---------------------------------|--------------|-----------|----------------|-----------|---------|
| BE-7 | 1.359E+01 | | 2.269E+01 | 3.970E+01 | 0.000E+00 | 0.342 |
| NA-24 | 1.041E+01 | | 2.660E+01 | 4.504E+01 | 0.000E+00 | 0.231 |
| K-40 | -6.988E+00 | | 4.413E+01 | 8.904E+01 | 0.000E+00 | -0.078 |
| CR-51 | -1.648E+01 | | 2.407E+01 | 3.740E+01 | 0.000E+00 | -0.441 |
| MN-54 | -4.324E+00 | | 2.707E+00 | 3.646E+00 | 0.000E+00 | -1.186 |
| CO-57 | 4.612E-01 | | 2.738E+00 | 4.625E+00 | 0.000E+00 | 0.100 |
| CO-58 | -5.108E-01 | | 2.549E+00 | 4.083E+00 | 0.000E+00 | -0.125 |
| FE-59 | -7.772E-01 | | 5.370E+00 | 8.473E+00 | 0.000E+00 | -0.092 |
| CO-60 | 1.234E+00 | | 2.695E+00 | 4.749E+00 | 0.000E+00 | 0.260 |
| ZN-65 | 2.710E+00 | | 6.104E+00 | 9.146E+00 | 0.000E+00 | 0.296 |
| SE-75 | 7.963E-01 | | 3.877E+00 | 6.403E+00 | 0.000E+00 | 0.124 |
| SR-85 | -7.329E+00 | | 3.343E+00 | 4.930E+00 | 0.000E+00 | -1.487 |
| Y-88 | -9.546E-01 | | 2.899E+00 | 4.431E+00 | 0.000E+00 | -0.215 |
| NB-94 | 1.661E+00 | | 2.464E+00 | 4.311E+00 | 0.000E+00 | 0.385 |
| NB-95 | 2.531E+00 | | 3.095E+00 | 4.868E+00 | 0.000E+00 | 0.520 |
| ZR-95 | 2.114E+00 | | 4.420E+00 | 7.611E+00 | 0.000E+00 | 0.278 |
| MO-99 | -1.985E+01 | | 3.392E+01 | 5.263E+01 | 0.000E+00 | -0.377 |
| RU-103 | -9.193E-01 | | 2.818E+00 | 4.628E+00 | 0.000E+00 | -0.199 |
| RU-106 | 1.343E+01 | | 2.616E+01 | 4.517E+01 | 0.000E+00 | 0.297 |
| AG-110m | -5.358E-02 | | 2.575E+00 | 4.256E+00 | 0.000E+00 | -0.013 |
| SN-113 | -5.180E-01 | | 3.766E+00 | 5.994E+00 | 0.000E+00 | -0.086 |
| SB-124 | -7.103E-02 | | 2.816E+00 | 4.057E+00 | 0.000E+00 | -0.018 |
| SB-125 | -3.497E+00 | | 8.088E+00 | 1.252E+01 | 0.000E+00 | -0.279 |
| TE-129M | 6.853E+00 | | 3.148E+01 | 5.381E+01 | 0.000E+00 | 0.127 |
| I-131 | 2.700E-01 | | 3.427E+00 | 5.553E+00 | 0.000E+00 | 0.049 |
| BA-133 | -1.997E+00 | | 4.226E+00 | 5.687E+00 | 0.000E+00 | -0.351 |
| CS-134 | -4.202E-01 | | 2.841E+00 | 4.032E+00 | 0.000E+00 | -0.104 |
| CS-136 | 9.834E-01 | | 2.817E+00 | 4.775E+00 | 0.000E+00 | 0.206 |
| CS-137 | 1.097E+00 | | 2.831E+00 | 4.845E+00 | 0.000E+00 | 0.226 |
| CE-139 | -8.279E-01 | | 2.777E+00 | 4.568E+00 | 0.000E+00 | -0.181 |
| BA-140 | -1.424E+00 | | 1.013E+01 | 1.676E+01 | 0.000E+00 | -0.085 |
| LA-140 | -2.224E+00 | | 3.170E+00 | 4.569E+00 | 0.000E+00 | -0.487 |
| CE-141 | 4.473E+00 | | 5.100E+00 | 8.209E+00 | 0.000E+00 | 0.545 |
| CE-144 | -1.465E+00 | | 2.155E+01 | 3.601E+01 | 0.000E+00 | -0.041 |
| EU-152 | 3.652E+00 | | 8.814E+00 | 1.461E+01 | 0.000E+00 | 0.250 |
| EU-154 | -3.688E+00 | | 5.809E+00 | 9.547E+00 | 0.000E+00 | -0.386 |
| RA-226 | -2.604E+01 | | 7.298E+01 | 1.206E+02 | 0.000E+00 | -0.216 |
| AC-228 | 1.028E+01 | | 1.087E+01 | 1.997E+01 | 0.000E+00 | 0.515 |
| TH-232 | 1.027E+01 | | 1.086E+01 | 1.996E+01 | 0.000E+00 | 0.515 |
| U-235 | 2.780E+01 | | 2.352E+01 | 3.663E+01 | 0.000E+00 | 0.759 |
| U-238 | -1.449E+02 | | 2.998E+02 | 4.561E+02 | 0.000E+00 | -0.318 |
| AM-241 | -3.212E+00 | | 2.451E+01 | 3.883E+01 | 0.000E+00 | -0.083 |

| | | | |
|--------------|-------|-------------------------------------|-------------------------------|
| A,10L29586-4 | | ,08/16/2006 17:59,08/14/2006 12:55, | 2.955E+00,L29586-4 WG EX |
| B,10L29586-4 | | ,LIBD | ,08/16/2006 09:41,103L083004 |
| C,TH-228 | ,YES, | 1.889E+00, | 5.459E+00, 8.562E+00,, 0.221 |
| C,BE-7 | ,NO , | 1.359E+01, | 2.269E+01, 3.970E+01,, 0.342 |
| C,NA-24 | ,NO , | 1.041E+01, | 2.660E+01, 4.504E+01,, 0.231 |
| C,K-40 | ,NO , | -6.988E+00, | 4.413E+01, 8.904E+01,, -0.078 |
| C,CR-51 | ,NO , | -1.648E+01, | 2.407E+01, 3.740E+01,, -0.441 |
| C,MN-54 | ,NO , | -4.324E+00, | 2.707E+00, 3.646E+00,, -1.186 |
| C,CO-57 | ,NO , | 4.612E-01, | 2.738E+00, 4.625E+00,, 0.100 |
| C,CO-58 | ,NO , | -5.108E-01, | 2.549E+00, 4.083E+00,, -0.125 |
| C,FE-59 | ,NO , | -7.772E-01, | 5.370E+00, 8.473E+00,, -0.092 |
| C,CO-60 | ,NO , | 1.234E+00, | 2.695E+00, 4.749E+00,, 0.260 |
| C,ZN-65 | ,NO , | 2.710E+00, | 6.104E+00, 9.146E+00,, 0.296 |
| C,SE-75 | ,NO , | 7.963E-01, | 3.877E+00, 6.403E+00,, 0.124 |
| C,SR-85 | ,NO , | -7.329E+00, | 3.343E+00, 4.930E+00,, -1.487 |
| C,Y-88 | ,NO , | -9.546E-01, | 2.899E+00, 4.431E+00,, -0.215 |
| C,NB-94 | ,NO , | 1.661E+00, | 2.464E+00, 4.311E+00,, 0.385 |
| C,NB-95 | ,NO , | 2.531E+00, | 3.095E+00, 4.868E+00,, 0.520 |
| C,ZR-95 | ,NO , | 2.114E+00, | 4.420E+00, 7.611E+00,, 0.278 |
| C,MO-99 | ,NO , | -1.985E+01, | 3.392E+01, 5.263E+01,, -0.377 |
| C,RU-103 | ,NO , | -9.193E-01, | 2.818E+00, 4.628E+00,, -0.199 |
| C,RU-106 | ,NO , | 1.343E+01, | 2.616E+01, 4.517E+01,, 0.297 |
| C,AG-110m | ,NO , | -5.358E-02, | 2.575E+00, 4.256E+00,, -0.013 |
| C,SN-113 | ,NO , | -5.180E-01, | 3.766E+00, 5.994E+00,, -0.086 |
| C,SB-124 | ,NO , | -7.103E-02, | 2.816E+00, 4.057E+00,, -0.018 |
| C,SB-125 | ,NO , | -3.497E+00, | 8.088E+00, 1.252E+01,, -0.279 |
| C,TE-129M | ,NO , | 6.853E+00, | 3.148E+01, 5.381E+01,, 0.127 |
| C,I-131 | ,NO , | 2.700E-01, | 3.427E+00, 5.553E+00,, 0.049 |
| C,BA-133 | ,NO , | -1.997E+00, | 4.226E+00, 5.687E+00,, -0.351 |
| C,CS-134 | ,NO , | -4.202E-01, | 2.841E+00, 4.032E+00,, -0.104 |
| C,CS-136 | ,NO , | 9.834E-01, | 2.817E+00, 4.775E+00,, 0.206 |
| C,CS-137 | ,NO , | 1.097E+00, | 2.831E+00, 4.845E+00,, 0.226 |
| C,CE-139 | ,NO , | -8.279E-01, | 2.777E+00, 4.568E+00,, -0.181 |
| C,BA-140 | ,NO , | -1.424E+00, | 1.013E+01, 1.676E+01,, -0.085 |
| C,LA-140 | ,NO , | -2.224E+00, | 3.170E+00, 4.569E+00,, -0.487 |
| C,CE-141 | ,NO , | 4.473E+00, | 5.100E+00, 8.209E+00,, 0.545 |
| C,CE-144 | ,NO , | -1.465E+00, | 2.155E+01, 3.601E+01,, -0.041 |
| C,EU-152 | ,NO , | 3.652E+00, | 8.814E+00, 1.461E+01,, 0.250 |
| C,EU-154 | ,NO , | -3.688E+00, | 5.809E+00, 9.547E+00,, -0.386 |
| C,RA-226 | ,NO , | -2.604E+01, | 7.298E+01, 1.206E+02,, -0.216 |
| C,AC-228 | ,NO , | 1.028E+01, | 1.087E+01, 1.997E+01,, 0.515 |
| C,TH-232 | ,NO , | 1.027E+01, | 1.086E+01, 1.996E+01,, 0.515 |
| C,U-235 | ,NO , | 2.780E+01, | 2.352E+01, 3.663E+01,, 0.759 |
| C,U-238 | ,NO , | -1.449E+02, | 2.998E+02, 4.561E+02,, -0.318 |
| C,AM-241 | ,NO , | -3.212E+00, | 2.451E+01, 3.883E+01,, -0.083 |

APPENDIX E

DATA VALIDATION MEMORANDUM



**CONESTOGA-ROVERS
& ASSOCIATES**

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Plainville, Connecticut 06062
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MEMORANDUM

TO: Steve Quigley
FROM: Kathy Shaw/ks/7/CT 
REF. NO.: 45136-23
DATE: June 29, 2006
Revision Date: August 29, 2006
RE: Data Quality Assessment and Verification
Fleetwide Assessment - Hydrogeologic Investigation
Dresden Generating Station - Morris, Illinois

This memorandum details a data verification of the radiochemical data resulting from the collection of 67 groundwater, six (6) surface water and nine (9) quality control samples from the Dresden Generating Station in Morris, Illinois. The sample summary detailing sample identification, sample location, quality control samples, and analytical parameters is presented in Table 1. Sample analysis was completed at Teledyne Brown Engineering in Knoxville, Tennessee (TBE) in accordance with the methodologies presented in Table 2. The quality control criteria used to assess the data were established by the methods.¹

Sample Quantitation

The laboratory reported several radionuclides with activity concentrations above the minimum detectable concentration (MDC) and greater than the three (3) sigma critical level (99% confidence interval), but qualified them as not detected due to the presence of interference preventing identification of the major peaks, with a U* flag. Based on the laboratory qualification definition these concentrations should be qualified as not-detected (U*) above the laboratory reported MDC.

Sample Preservation

Samples collected for gamma scan and total strontium analyses are to be preserved to a pH of less than or equal to two (2) during shipment and laboratory storage with nitric acid at the time of collection. The samples were shipped and maintained in accordance with the sample preservation requirements.

Method Blank Samples

Contamination of samples contributed by laboratory conditions or procedures was monitored by concurrent preparation and analysis of method blank samples. The method blank samples were reported to be free of radioactive material contamination produced by the laboratory conditions or procedures.

¹ PRESCRIBED PROCEDURE FOR MEASUREMENT OF RADIOACTIVITY IN DRINKING WATER EPA-600/4-80-032

Laboratory Control Sample Analysis

The laboratory control sample (LCS) is a sample containing a known amount of a radionuclide that is equivalent to internal or external control samples prepared by the analytical laboratory or a Federal/State agency. The LCS percent recoveries were within the laboratory or agency control limits, indicating that an acceptable level of overall performance was achieved.

Duplicate Sample Analyses

The laboratory precision of matrix-specific measurement system was monitored by the analyses of duplicate samples. The duplicate relative percent difference (RPD) data were within the acceptance criteria. No targeted analytes were reported as detected in the laboratory duplicate sample sets.

Field Quality Assurance/Quality Control

The field quality assurance/quality control consisted of one (1) field blank (rinsate) sample and eight (8) field duplicate sample sets.

To assess the efficiency of field decontamination procedures and cleanliness of sample containers, the rinsate sample identified in Table 1 was collected and analyzed. No target radionuclides were reported as detected in the rinsate samples.

Overall precision for the sampling event and laboratory procedures were monitored using the results of the field duplicate sample sets. Table 3 summarizes the results of the detected analytes in the field duplicate sample set. The data indicate that an adequate level of precision was achieved for the sampling event.

Overall Assessment

The data were found to exhibit acceptable levels of accuracy and precision, based on the provided information, and may be used with the qualifications noted.

TABLE 1

SAMPLE KEY
FLEETWIDE ASSESSMENT
DRESDEN GENERATING STATION
MORRIS, ILLINOIS

| <i>Sample Location</i> | <i>Sample Identification</i> | <i>QC Sample</i> | <i>Sample Date</i> | <i>Matrix</i> | <i>Analysis</i> |
|------------------------|--------------------------------|------------------|--------------------|---------------|----------------------------------|
| DSP-152 | WG-DN-DSP-152-052306-JH-001 | | 5/23/2006 | Groundwater | Tritium/Strontium/Gamma Spectrum |
| DSP-157M | WG-DN-DSP-157M-052306-JH-002 | | 5/23/2006 | Groundwater | Tritium/Strontium/Gamma Spectrum |
| DSP-157S | WG-DN-DSP-157S-052306-JH-003 | | 5/23/2006 | Groundwater | Tritium/Strontium/Gamma Spectrum |
| DSP-126 | WG-DN-DSP-126-052406-JH-004 | | 5/24/2006 | Groundwater | Tritium/Strontium/Gamma Spectrum |
| DSP-153 | WG-DN-DSP-153-052406-JH-005 | | 5/24/2006 | Groundwater | Tritium/Strontium/Gamma Spectrum |
| DSP-154 | WG-DN-DSP-154-052506-JH-006 | | 5/25/2006 | Groundwater | Tritium/Strontium/Gamma Spectrum |
| DSP-158M | WG-DN-DSP-158M-052506-JH-007 | | 5/25/2006 | Groundwater | Tritium/Strontium/Gamma Spectrum |
| DSP-158S | WG-DN-DSP-158S-052506-JH-008 | | 5/25/2006 | Groundwater | Tritium/Strontium/Gamma Spectrum |
| DSP-159M | WG-DN-DSP-159M-052506-JH-009 | | 5/25/2006 | Groundwater | Tritium/Strontium/Gamma Spectrum |
| MW-DN-103S | WG-DN-MW-DN-103S-052606-JH-010 | | 5/26/2006 | Groundwater | Tritium/Strontium/Gamma Spectrum |
| MW-DN-103S | WG-DN-MW-DN-103S-052606-JH-011 | Duplicate (010) | 5/26/2006 | Groundwater | Tritium/Strontium/Gamma Spectrum |
| MW-DN-103I | WG-DN-MW-DN-103I-052606-JH-012 | | 5/26/2006 | Groundwater | Tritium/Strontium/Gamma Spectrum |
| MW-DN-106S | WG-DN-MW-DN-106S-052606-JH-013 | | 5/26/2006 | Groundwater | Tritium/Strontium/Gamma Spectrum |
| DSP-121 | WG-DN-DSP-121-052606-JH-014 | | 5/26/2006 | Groundwater | Tritium/Strontium/Gamma Spectrum |
| DSP-117 | WG-DN-DSP-117-052606-JH-015 | | 5/26/2006 | Groundwater | Tritium/Strontium/Gamma Spectrum |
| DSP-147 | WG-DN-DSP-147-053006-JH-016 | | 5/30/2006 | Groundwater | Tritium/Strontium/Gamma Spectrum |
| DSP-148 | WG-DN-DSP-148-053006-JH-017 | | 5/30/2006 | Groundwater | Tritium/Strontium/Gamma Spectrum |
| DSP-156 | WG-DN-DSP-156-053006-JH-018 | | 5/30/2006 | Groundwater | Tritium/Strontium/Gamma Spectrum |
| DSP-149R | WG-DN-DSP-149R-053106-JH-019 | | 5/31/2006 | Groundwater | Tritium/Strontium/Gamma Spectrum |
| DSP-149R | WG-DN-DSP-149R-053106-JH-020 | Duplicate (019) | 5/31/2006 | Groundwater | Tritium/Strontium/Gamma Spectrum |
| DSP-159S | WG-DN-DSP-159S-053106-JH-022 | | 5/31/2006 | Groundwater | Tritium/Strontium/Gamma Spectrum |
| DSP-105 | WG-DN-DSP-DN-105-052306-JL-051 | | 5/23/2006 | Groundwater | Tritium/Strontium/Gamma Spectrum |
| DSP-106 | WG-DN-DSP-DN-106-052306-JL-052 | | 5/23/2006 | Groundwater | Tritium/Strontium/Gamma Spectrum |
| DSP-107 | WG-DN-DSP-DN-107-052306-JL-053 | | 5/23/2006 | Groundwater | Tritium/Strontium/Gamma Spectrum |
| DSP-150 | WG-DN-DSP-DN-150-052406-JL-054 | | 5/24/2006 | Groundwater | Tritium/Strontium/Gamma Spectrum |
| DSP-151 | WG-DN-DSP-DN-151-052406-JL-055 | | 5/24/2006 | Groundwater | Tritium/Strontium/Gamma Spectrum |
| DSP-108 | WG-DN-DSP-DN-108-052406-JL-056 | | 5/24/2006 | Groundwater | Tritium/Strontium/Gamma Spectrum |
| DSP-118 | WG-DN-DSP-DN-118-052506-JL-057 | | 5/25/2006 | Groundwater | Tritium/Strontium/Gamma Spectrum |
| DSP-155 | WG-DN-DSP-DN-155-052506-JL-058 | | 5/25/2006 | Groundwater | Tritium/Strontium/Gamma Spectrum |
| DSP-122 | WG-DN-DSP-DN-122-052506-JL-059 | | 5/25/2006 | Groundwater | Tritium/Strontium/Gamma Spectrum |
| DSP-123 | WG-DN-DSP-DN-123-052606-JL-060 | | 5/26/2006 | Groundwater | Tritium/Strontium/Gamma Spectrum |
| DSP-123 | WG-DN-DSP-DN-123-052606-JL-061 | Duplicate (060) | 5/26/2006 | Groundwater | Tritium/Strontium/Gamma Spectrum |
| DSP-124 | WG-DN-DSP-DN-124-052606-JL-062 | | 5/26/2006 | Groundwater | Tritium/Strontium/Gamma Spectrum |
| MW-DN-101S | WG-DN-MW-DN-101S-052606-JL-063 | | 5/26/2006 | Groundwater | Tritium/Strontium/Gamma Spectrum |
| MW-DN-101I | WG-DN-MW-DN-101I-052606-JL-064 | | 5/26/2006 | Groundwater | Tritium/Strontium/Gamma Spectrum |

TABLE 1

SAMPLE KEY
FLEETWIDE ASSESSMENT
DRESDEN GENERATING STATION
MORRIS, ILLINOIS

| <i>Sample Location</i> | <i>Sample Identification</i> | <i>QC Sample</i> | <i>Sample Date</i> | <i>Matrix</i> | <i>Analysis</i> |
|------------------------|--------------------------------|------------------|--------------------|---------------|--|
| MW-DN-108I | WG-DN-MW-DN-108I-052606-JL-065 | | 5/26/2006 | Groundwater | Tritium/Strontium/Sr-90/Gamma Spectrum |
| DSP-127 | WG-DN-DSP-DN-127-053006-JL-066 | | 5/30/2006 | Groundwater | Tritium/Strontium/Gamma Spectrum |
| MW-DN-110S | WG-DN-MW-DN-110S-053006-JL-067 | | 5/30/2006 | Groundwater | Tritium/Strontium/Gamma Spectrum |
| MW-DN-110I | WG-DN-MW-DN-110I-053006-JL-068 | | 5/30/2006 | Groundwater | Tritium/Strontium/Gamma Spectrum |
| MW-DN-104S | WG-DN-MW-DN-104S-053006-JL-069 | | 5/30/2006 | Groundwater | Tritium/Strontium/Gamma Spectrum |
| MW-DN-109I | WG-DN-MW-DN-109I-053106-JL-070 | | 5/31/2006 | Groundwater | Tritium/Strontium/Gamma Spectrum |
| MW-DN-109I | WG-DN-MW-DN-109I-053106-JL-071 | Duplicate (070) | 5/31/2006 | Groundwater | Tritium/Strontium/Gamma Spectrum |
| MW-DN-109S | WG-DN-MW-DN-109S-053106-JL-072 | | 5/31/2006 | Groundwater | Tritium/Strontium/Gamma Spectrum |
| MW-DN-111S | WG-DN-MW-DN-111S-053106-JL-073 | | 5/31/2006 | Groundwater | Tritium/Strontium/Gamma Spectrum |
| MW-DN-107S | WG-DN-MW-DN-107S-053106-JL-074 | | 5/31/2006 | Groundwater | Tritium/Strontium/Gamma Spectrum |
| MW-DN-102I | WG-DN-MW-DN-102I-060106-JL-075 | | 6/1/2006 | Groundwater | Tritium/Strontium/Gamma Spectrum |
| MW-DN-102S | WG-DN-MW-DN-102S-060106-JL-076 | | 6/1/2006 | Groundwater | Tritium/Strontium/Gamma Spectrum |
| MW-DN-105S | WG-DN-MW-DN-105S-060106-JL-077 | | 6/1/2006 | Groundwater | Tritium/Strontium/Gamma Spectrum |
| DSP-125 | WG-DN-DSP-DN-125-060106-JL-078 | | 6/1/2006 | Groundwater | Tritium/Strontium/Gamma Spectrum |
| SW-DN-103 | WS-DN-SW-103-053106-JH-021 | | 5/31/2006 | Surface Water | Tritium/Strontium/Gamma Spectrum |
| SW-DN-101 | WS-DN-SW-101-053106-JH-023 | | 5/31/2006 | Surface Water | Tritium/Strontium/Gamma Spectrum |
| SW-DN-102 | WS-DN-SW-102-053106-JH-024 | | 5/31/2006 | Surface Water | Tritium/Strontium/Gamma Spectrum |
| SW-DN-105 | WS-DN-SW-105-060106-JH-025 | | 6/1/2006 | Surface Water | Tritium/Strontium/Gamma Spectrum |
| SW-DN-104 | WS-DN-SW-104-060106-JH-026 | | 6/1/2006 | Surface Water | Tritium/Strontium/Gamma Spectrum |
| SW-DN-106 | WS-DN-SW-106-060106-JH-027 | | 6/1/2006 | Surface Water | Tritium/Strontium/Gamma Spectrum |
| SW-DN-106 | WS-DN-SW-106-060106-JH-028 | Duplicate (027) | 6/1/2006 | Surface Water | Tritium/Strontium/Gamma Spectrum |
| MW-DN-122I | WG-DN-MW-DN-122I-080806-GL-001 | | 8/8/2006 | Groundwater | Tritium/Strontium/Gamma Spectrum |
| MW-DN-122S | WG-DN-MW-DN-122S-080806-GL-002 | | 8/8/2006 | Groundwater | Tritium/Strontium/Gamma Spectrum |
| MW-DN-121S | WG-DN-MW-DN-121S-080806-GL-003 | | 8/8/2006 | Groundwater | Tritium/Strontium/Gamma Spectrum |
| MW-DN-123I | WG-DN-MW-DN-123I-080806-GL-004 | | 8/8/2006 | Groundwater | Tritium/Strontium/Gamma Spectrum |
| -- | RB-DN-MW-DN-120I-080806-GL-005 | Rinsate | 8/8/2006 | Water | Tritium/Strontium/Gamma Spectrum |
| MW-DN-120I | WG-DN-MW-DN-120I-080806-GL-006 | | 8/8/2006 | Groundwater | Tritium/Strontium/Gamma Spectrum |
| MW-DN-120S | WG-DN-MW-DN-120S-080806-GL-007 | | 8/8/2006 | Groundwater | Tritium/Strontium/Gamma Spectrum |
| MW-DN-123S | WG-DN-MW-DN-123S-080806-GL-026 | | 8/8/2006 | Groundwater | Tritium |
| MW-DN-113S | WG-DN-MW-DN-113S-080906-GL-008 | | 8/9/2006 | Groundwater | Tritium/Strontium/Gamma Spectrum |
| MW-DN-113I | WG-DN-MW-DN-113I-080906-GL-009 | | 8/9/2006 | Groundwater | Tritium/Strontium/Gamma Spectrum |
| MW-DN-113I | WG-DN-MW-DN-113I-080906-GL-010 | Duplicate (009) | 8/9/2006 | Groundwater | Tritium/Strontium/Gamma Spectrum |
| MW-DN-116I | WG-DN-MW-DN-116I-080906-GL-011 | | 8/9/2006 | Groundwater | Tritium/Strontium/Gamma Spectrum |
| MW-DN-116S | WG-DN-MW-DN-116S-080906-GL-012 | | 8/9/2006 | Groundwater | Tritium/Strontium/Gamma Spectrum |
| MW-DN-112S | WG-DN-MW-DN-112S-081006-GL-013 | | 8/10/2006 | Groundwater | Tritium/Strontium/Gamma Spectrum |

TABLE 1

SAMPLE KEY
FLEETWIDE ASSESSMENT
DRESDEN GENERATING STATION
MORRIS, ILLINOIS

| <i>Sample Location</i> | <i>Sample Identification</i> | <i>QC Sample</i> | <i>Sample Date</i> | <i>Matrix</i> | <i>Analysis</i> |
|------------------------|--------------------------------|------------------|--------------------|---------------|--|
| MW-DN-112I | WG-DN-MW-DN-112I-081006-GL-014 | | 8/10/2006 | Groundwater | Tritium/Strontium/Gamma Spectrum |
| MW-DN-117I | WG-DN-MW-DN-117I-081006-GL-015 | | 8/10/2006 | Groundwater | Tritium/Strontium/Gamma Spectrum |
| MW-DN-118S | WG-DN-MW-DN-118S-081006-GL-016 | | 8/10/2006 | Groundwater | Tritium/Strontium/Gamma Spectrum |
| MW-DN-119S | WG-DN-MW-DN-119S-081106-GL-017 | | 8/11/2006 | Groundwater | Tritium/Strontium/Gamma Spectrum |
| MW-DN-119I | WG-DN-MW-DN-119I-081106-GL-018 | | 8/11/2006 | Groundwater | Tritium/Strontium/Gamma Spectrum |
| MW-DN-115I | WG-DN-MW-DN-115I-081106-GL-019 | | 8/11/2006 | Groundwater | Tritium/Strontium/Gamma Spectrum |
| MW-DN-114S | WG-DN-MW-DN-114S-081106-GL-020 | | 8/11/2006 | Groundwater | Tritium/Strontium/Gamma Spectrum |
| MW-DN-114S | WG-DN-MW-DN-114S-081106-GL-021 | Duplicate(020) | 8/11/2006 | Groundwater | Tritium/Strontium/Gamma Spectrum |
| MW-DN-108I | WG-DN-MW-DN-108I-081406-GL-022 | | 8/14/2006 | Groundwater | Tritium/Strontium/Sr-90/Gamma Spectrum |
| MW-DN-108I | WG-DN-MW-DN-108I-081406-GL-023 | Duplicate (022) | 8/14/2006 | Groundwater | Tritium/Strontium/Sr-90/Gamma Spectrum |
| MW-DN-115S | WG-DN-MW-DN-115S-081406-GL-024 | | 8/14/2006 | Groundwater | Tritium/Strontium/Gamma Spectrum |
| MW-DN-114I | WG-DN-MW-DN-114I-081406-GL-025 | | 8/14/2006 | Groundwater | Tritium/Strontium/Gamma Spectrum |

QC - Quality Control

Gamma Spectrum - Barium-140, Cesium-134, Cesium-137, Cobalt-58, Cobalt-60, Iron-59, Lanthanum-140, Manganese-54, Niobium-95, Zinc-65, Zirconium-95

Sr-90 - Strontium-90

Isotopes not listed in Table 1, but typically detected in environmental samples (i.e. Ac-228, K-40, Be-7, Ra-226, Th-228, Th-232, etc.) were reported if detected.

TABLE 2

SUMMARY OF ANALYTICAL METHODS, HOLDING TIME PERIODS, AND PRESERVATIVES
FLEETWIDE ASSESSMENT
DRESDEN GENERATING STATION
MORRIS, ILLINOIS

| <i>Parameter</i> | <i>Method¹</i> | <i>Matrix</i> | <i>Holding Time</i> | <i>Preservation</i> |
|---------------------------|---------------------------|---------------|---------------------|---------------------|
| Tritium | EPA 906.0 | Water | - 6 months | None |
| Strontium - 89/90 (Total) | EPA 905.0 | Water | - 6 months | HNO3 to pH<2 |
| Strontium - 90 | EPA 905.0 | Water | - 6 months | HNO3 to pH<2 |
| Gamma Spectrum | EPA 901.1 | Water | - 6 months | HNO3 to pH<2 |

¹ EPA-60/40-80-032 August 1980 "Prescribed Procedures For Measurement of Radioactivity In Drinking Water"

TABLE 3

SUMMARY OF DETECTED ANALYTES IN FIELD DUPLICATE SAMPLE SETS
FLEETWIDE ASSESSMENT
DRESDEN GENERATING STATION
MORRIS, ILLINOIS

| <i>Parameter</i> | <i>Original Sample ID</i> | <i>Original Result</i> | <i>Uncertainty @ 2 sigma</i> | <i>Duplicate Sample ID</i> | <i>Duplicate Result</i> | <i>Uncertainty @ 2 sigma</i> | <i>RPD</i> | <i>Units</i> |
|---|--------------------------------|----------------------------|----------------------------------|--------------------------------|-----------------------------|----------------------------------|------------|--------------|
| Tritium | WG-DN-DSP-DN-123-052606-JL-060 | 13100 | +/- 318 | WG-DN-DSP-DN-123-052606-JL-061 | 13200 | +/- 319 | 0.76 | pCi/L |
| Tritium | WG-DN-DSP-149R-053106-JH-019 | 668 | +/- 144 | WG-DN-DSP-149R-053106-JH-020 | 694 | +/- 143 | 3.8 | pCi/L |
| Tritium | WG-DN-MW-DN-109I-053106-JL-070 | 3620 | +/- 413 | WG-DN-MW-DN-109I-053106-JL-071 | 3750 | +/- 424 | 3.5 | pCi/L |
| Tritium | WG-DN-MW-DN-114S-081106-GL-020 | 2770 | +/- 336 | WG-DN-MW-DN-114S-081106-GL-021 | 2740 | +/- 335 | 1.1 | pCi/L |
| Strontium-89/90 (Total) Strontium-90 | WG-DN-MW-DN-108I-081406-GL-022 | 3.21 | +/- 1 | WG-DN-MW-DN-108I-081406-GL-023 | 2.72 | +/- 1.01 | 16.5 | pCi/L |
| | | 4.74 | +/- 2.45 | | 2.17 | +/- 0.783 | 74.4 | pCi/L |

RPD - Relative Percent Difference